

# **Navy Personnel Research and Development Center**

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## **Feasibility of Surveying Navy Dependents About Substance Abuse: Alternative Approaches, Cost Estimates, Sampling**

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**Feasibility of Surveying Navy Dependents  
About Substance Abuse:  
Alternative Approaches, Cost Estimates, Sampling**

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13. ABSTRACT (Maximum 200 words) <p>This report addresses the feasibility of administering a survey about substance abuse to Navy dependent (NDEP) spouses and youth. Because of the extreme sensitivity of the items ("Do you use the following drugs . . . ?"), known as self-report questions, special consideration was given to: survey mode (interview, by-mail, etc.), protection of confidentiality, nonresponse rate, and validity of response.</p> <p>On-going survey projects with national samples were reviewed. Special problems regarding identification and location of a sample of NDEPs (involving more complex procedures than for a national sample) were addressed. Costs were roughly estimated for alternative modes of administration under two conditions: (1) "Piggy-back" an on-going survey project and (2) conduct a separate NDEP survey.</p> <p>As a tool for management decision making, a matrix format was designed to display a summarization of many considerations for each alternative mode.</p>				
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## Foreword

The Navy Personnel Survey System (NPSS) was established to collect information on attitudes, behaviors, and experiences of Navy civilian and military personnel, for use by Navy managers and policy makers. Per OPNAV 5300.8 Series Instruction, the NPSS also acts as the central coordination point for all Navy personnel surveys, to minimize impact on operational commands, and to determine if a proposed survey's content and techniques meet Navy standards and a sponsor's requirements.

This report addresses the feasibility of administering a survey containing highly sensitive items ("Do you use the following drugs. . . ?") to Navy dependents (NDEPs) (spouses and children). Because of the impact of such item sensitivity on response rate, and special concern for protection of confidentiality, the feasibility question was addressed initially by assessing item content and administration procedures of three relevant surveys of national samples funded by agencies of Department of Health and Human Services. Then, costs were estimated for conducting a survey of NDEPs under each of two situations: (1) as part of an on-going project ("piggy-back") and (2) as a separate NDEP project.

Because of the unique situation of NDEPs typically residing in the vicinity of Navy bases (compared with a national sample), the special requirements for identifying and locating a sample of NDEPs for alternative modes of administration were also addressed.

This report presents the details of the feasibility investigation. As requested by the sponsor, recommendations are presented as a set of options (special procedures, estimated costs, and expected self-report level) for each alternative mode of administration. The project was sponsored by the Navy Drug and Alcohol Program Division of the Chief of Naval Personnel (PERS-63), within reimbursable Work Unit 98 CO2PODD507.

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## Executive Summary

The catastrophic effects of substance abuse on finances, jobs, health, and crime, are well known. If such abuse is also prevalent among Navy dependents (NDEPs) (spouses and youth), the effects may extend to reduced combat readiness of the military member and increased costs of health care. To prioritize drug avoidance/resistance education and other interventions, the Navy needs to identify the extent of the problem.

Surveys to identify the extent of use of specific drugs, within subgroups by age, sex, race (etc.), have been administered to civilian and military samples, but not to military dependents (except for a survey of high school seniors in DOD overseas schools). Because of the extreme sensitivity of the items ("Do you use the following drugs. . . ?"), known as *self-report* questions, special consideration must be given to: survey mode (interview, by-mail, etc.), protection of confidentiality, nonresponse rate, and validity of response.

This report addresses the feasibility of administering a survey containing sensitive self-report items to NDEPs. The primary purpose of the report is to provide options for management, in terms of expected difficulties and estimated costs for four alternative modes—two by interview (household visit and telephone) and two by self-administration (in-school and by-mail).

### Key Findings

- There are three projects funded (at about a total of \$15 million per year) by Department of Health and Human Services agencies that have been on-going for 10 to 20 years. Much can be learned from their results about questionnaire design, sampling, response rate, and methods to protect confidentiality. These three projects are described in considerable detail.
- Because of the concern for item sensitivity and its impact on response rate and self-report levels, these three long-term projects use in-school and household interview mode for initial survey of respondent (then one uses follow-up mail mode). No initial by-mail mode and only two brief experimental by-telephone mode projects were found.
- Response rate varies by mode of administration—highest by in-school, then by interview (household, then telephone), and probably lowest by mail. Response rate appears to vary with the credibility of the assurance of confidentiality.
- Low response rate would probably result in a severely depressed self-report level.
- The most feasible (easiest and least costly) modes, by-mail and by-telephone, would probably result in the lowest response rate and self-report level.
- There is no objective feasible way to validate self-report responses, regardless of mode. For example, it would not be feasible to conduct simultaneous chemical analysis tests of each respondent. Such tests could only identify recent use, and for only a small number of the many substances surveyed. Some investigators suggest that underreporting may be minimal. Nonetheless, substantial differences in self-report levels do exist among the three long-term projects described in this report.

- Identification and location of a sample of NDEPs would require far more complex procedures than for a national sample—starting with the Defense Enrollment Eligibility System (DEERS), then letters to commands (some in specific areas) for dependents' local address and telephone number.
- Because of Navy's unique sampling requirements, use of the two modes that are best for response rate (in-school and household interview) would probably have to be limited to areas in which there are a relatively high density of NDEPs (Norfolk, San Diego, etc.).
- Considerable data on use rates are available for national samples. Given the enormous costs of the surveys, one cost-effective approach for the Navy would be to relate NDEPs use to that of the national samples, particularly for monitoring trends. A few approaches are suggested.
- NDEPs typically reside in communities in which various drug reduction programs are ongoing, particularly in the schools. Awareness and details of those programs are necessary in order to determine how Navy intervention programs will complement, supplement, or reinforce other programs.

As a tool for management decision making, a matrix format was designed to display a summarization of many considerations for each alternative mode of administration. Recommendations are presented as various alternatives, grouped by relatively "high-cost" and "low-cost" sets of options. One consideration, however, is common to all options—to use items identical to those in one of the three projects described, for a similar mode of administration to NDEPs.

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# Introduction

## Problem

The destructive effects of substance abuse on health, finances, job/school performance, and crime are well known, and are of particular concern to the military services. Substance abuse, not only by the service member, but if also by service dependents, has a negative impact on the productivity, readiness, and career of the service member, and also on the military health care delivery system.

From monitoring, testing, detection, and survey methods, the prevalence of use by *service* members is well documented, but use by *their dependents* is not. An estimate of prevalence of use by dependents is necessary as a basis for developing information and intervention programs to reduce the prevalence.

When a survey is used to collect information about substance abuse, there are special problems. Because of the extreme sensitivity of the items ("Do you use the following drugs. . . ?"), known as *self-report* questions, special consideration must be given to survey mode (administration by interview, mail, etc.), protection of confidentiality, nonresponse rate, and validity of response. The procedures used to deal with these special considerations can be very costly. Thus, it is essential to identify and adapt any relevant information from existing surveys, prior to initiation, design, and administration of a special survey to Navy dependents (hereafter, NDEPs).

## Objectives

1. Identify and describe surveys, item content, and methodological studies that include target populations with characteristics (age, family status, schooling, employment, etc.) similar to those of NDEPs.
2. Develop procedures to identify and sample NDEPs.
3. Estimate feasibility and cost effectiveness of alternative approaches for assessing the incidence of substance abuse among NDEPs.

# Approach

## Issues Considered

To achieve the objectives above, four issues were considered: (1) impact of sensitivity of question content on mode of administration; (2) in-house versus contractor performance; (3) relevance and usefulness of on-going projects; and (4) if by contract, separate project versus "piggy-back" on-going project.

First, as to sensitivity—asking persons if they have used various drugs (including alcohol, tobacco, and inhalants)—four alternative modes of survey administration were considered: (1) mail, (2) telephone interview, (3) face-to-face interview, and (4) group administration of pencil/paper questionnaire. The research literature has indicated that the first two modes, mail and telephone, are not useful (lower percentages of return or participation)—because of sensitivity. The

last two modes are potentially useful, although they too pose difficulties, particularly as to getting access to subjects. Further, large staffs are required to: (1) determine sampling strategies and representativeness, (2) interact with and go through long approval processes at organizations (e.g., school systems) to get access to subjects, and (3) administer the survey.

The requirement for large staffs has two major implications: (1) in-house performance is probably not feasible and (2) project costs (whether by contract/grant or in-house) are very high—both total cost, as well as average cost per respondent. Thus, the alternative of funding for an additional or enlarged sample in a relevant on-going project needs to be carefully considered.

### **Surveys and Methodological Studies Reviewed**

Of many articles and surveys on sensitive items that were reviewed, only three survey projects were identified that were relevant to the above objectives and considerations. These three projects have been on-going for several years. Many reports (with voluminous amounts of tabular and graphic data) have been published, but only a relatively small amount of it appears in the professional journals. Thus, a large effort in the first phase of this feasibility project was devoted to seeking, collecting, reviewing these reports, and conferring with sponsors and contractor staffs. Those projects are described in Results, before costs and feasibility are discussed. Several methodological studies, regarding mode of administration, cognitive evaluation of items, and inconsistency of response (to types of items) were conducted in conjunction with one of the three projects. Those studies are also summarized in Results.

### **Comparison of Alternatives**

After relevant survey reports and instruments were reviewed, project managers and researchers were contacted. They were asked to suggest approximate estimates of costs for conducting a survey of NDEPs by each of two approaches. One approach was by adding a sample of NDEPs to their on-going project (hereafter, to “piggy-back” a project), and the other was by conducting a separate project for the NDEP sample. They were also asked about the feasibility of conducting the survey by each approach.

A great diversity of information was collected. Several factors were identified that need to be considered in addressing the feasibility question. As a tool for management decision making, a matrix format was designed to display a summarization of many considerations for each alternative mode of administration.

## **Results**

### **Description of Relevant Survey Projects**

Of the three survey projects identified that are particularly relevant to the target population of this project, each one has been on-going for several years, and thus provides valuable trend data. Each one is sponsored by an agency of the U.S. Department of Health and Human Services (Dept. HHS). The surveys have some similar item content, but differ in mode of administration or anonymity. For example, one is administered in-school by research staff to high school (HS) students and by registered mail to adults. Respondents identify themselves for follow-up surveys. The other two surveys are anonymous. One is administered in-home by interviewer to both youth



and adults. The other one is administered in-school to HS students by school staff. Each of these three projects is described below in considerable detail, including administration and sampling procedures, protection of confidentiality, questionnaire content, and recent report titles. Because item content is an important objective of this feasibility investigation, complete questionnaires from two of the three survey projects are provided in the Appendices.

**Monitoring the Future (MTF): A Continuing Study of the Life-Styles and Values of Youth**

*Sponsor:* National Institute on Drug Abuse (NIDA) of Public Health Service, U.S. Dept. HHS

*Performer/contractor:* University of Michigan, Institute for Social Research (ISR)

*Method of administration:* For HS students, by ISR representatives, for follow-up (post-HS) college students and adults by certified mail.

*Survey background/characteristics:* The survey is administered to HS students (grades 8, 10, 12), college students, and other (noncollege) young adults. In addition to national sampling, the survey was also administered (in 1982 and 1987) to HS seniors in the overseas Department of Defense Dependents School System (DODDSS). Funding was provided by Department of Defense (DOD) agencies—Health Affairs and Drug Abuse Resistance Education to piggy-back the MTF. In the national sample, high schools in each sampling area are invited to participate for no more than 2 years. Questionnaires are administered in classrooms during a normal class period.

The survey is *not* anonymous. Information that identifies the respondent is requested (see Appendix A-13), because part of the sample is used again for the young-adult survey (see next paragraph). To protect confidentiality: (1) a pair of *dissimilar* numbers are printed in the booklet—one on the questionnaire, and the other on a tear-off sheet of respondent identifying information; (2) questionnaires and tear-off sheets are collected separately by the administrator and placed in separate sealed envelopes; (3) the dissimilar numbers can only be matched by a secret tape file at the University of Michigan; and (4) the entire procedure is explained to the respondent (see Appendix A-13).

For the young-adult survey, a representative sample of the HS senior sample is selected for follow-up every year. (For adequate sample size, heavy drug users from the HS senior sample are oversampled. Then later, response rates are adjusted.) Questionnaires are sent by registered mail, with a \$5 check enclosed payable to the respondent. Reminders by letter, post card, and telephone go out at fixed intervals.

Eleven classes (some have sub-classes) of drug use are surveyed (see summary of content below). Each annual report presents extensive analyses of trends since 1975.

*Years administered:* Annually—since 1975 for HS seniors, since 1980 for post HS follow-up for young adults, and since 1991 for 8th and 10th graders, and only in 1982 and 1987 for DODDSS HS seniors.

*Sample size for 1991 samples:* 8th grade = 18,000, 10th grade = 16,000, 12th grade = 15,000, young adults = 9,000 (includes 2,900 new follow-ups from the HS senior sample each year, 1,400 full-time college students, and 1,500 other noncollege). The 1987 DODDSS HS seniors = 2,700.



*Questionnaire content* (and *n* items in each area): For 15 drug types (cigarettes, smokeless tobacco, marijuana, cocaine, crack, alcohol, sniff glue/gas/spray, steroids, LSD, PCP, amphetamines, barbiturates, tranquilizers, heroin, injections) with similar questions for respondent's use, friends' use, effects of, approval of use, and difficulty to get (*n* = 144 items); demographics, interests, activities, plans, feelings, and experiences (95); miscellaneous (car safety, drug, and sex education) (10). For most of each drug type uses, separate questions for first use, lifetime, past 12 months, and past 30 days. (See Appendix A for complete questionnaire for 8th and 10th graders.)

*Report titles:*

*Smoking, drinking, and illicit drug use among American secondary school students, college students, and young adults, 1975-1991.* Vol. I and II. NIDA/NIH Pub. No. 93-3480, 1992. (Similar title for each previous year.)

*Second worldwide survey of drug and alcohol use among students in the DOD Dependents School System, 1982-1987.* Monitoring the Future Occasional Paper, University of Michigan, ISR, 1989. (For 1982 survey, similar paper 15, 1983.)

The three principal investigators at ISR, L. D. Johnson, P. M. O'Malley, and J. G. Bachman, have published many articles, using data from the annual reports, in journals of: *Adolescent Health Care, International Journal of Addiction, American Journal of Public Health, Journal of Health and Social Behavior, Social Problems, Journal of Studies on Alcohol, and Contemporary Drug Problems*. This long-term project has probably spawned more articles, chapters, and expert testimony than any other project that investigated substance abuse. For illustrative purposes, some publications are listed in Appendix B.

*Sample subgroups:* By grade, college/other, sex, race/ethnic, regional, population density, parent education, and recency of use.

**National Household Survey on Drug Abuse (NHSDA)**

*Sponsor:* Substance Abuse and Mental Health Services Administration (SAMSA) (previously, by National Institute on Drug Abuse [NIDA]) Division of Epidemiology and Prevention Research and National Institute on Alcohol Abuse and Alcoholism of Alcohol, Drug Abuse, and Mental Health Administration, Public Health Service, Dept. HHS

*Performer/contractor:* Research Triangle Institute (RTI)

*Method of administration:* Visit and interview in the home by contractor staff

*Survey Background/Characteristics:* The survey is administered to household members age 12 and older. The starting point was the Comprehensive Drug Abuse and Prevention Act of 1970 (PL 91-513), Sec. 601. The predecessor survey was Nationwide Study of Beliefs, Information and Experiences. In addition to demographic information, the survey comprises items on nine classes of drugs (see summary of content below). The various reports present extensive analyses of trends (since early 70s) by subgroups, as well as by total. Because of the extreme sensitivity of the questions, particularly when asked in the home, various strategies are applied, such as, introductory letters to potential respondents are intentionally vague (no reference to *the* topic at issue—illegal drug use).

In this mode, also, an elaborate set of procedures are used to protect confidentiality. During the personal interview in the home, for sensitive questions, the interviewer: (1) promises the respondent complete confidentiality and anonymity, (2) shifts from interviewer-mode to self-administered answer sheets, (3) conducts interview/questions away from other household members, (4) displays show cards (for respondent to point to answer) for questions about drug use, (5) asks respondent to mark answer sheets to record responses to questions read aloud by the interviewer, and (6) invites respondent to put answer sheets in sealed envelope and accompany interviewer to mailbox.

Afterwards, interviewers assessed level of privacy (see Appendix C-1). About half of all interviews were conducted in complete privacy. The other half had varying levels of interruption or other person(s) present. Another person was present most or all of the time for 9% of all interviews, including 14 to 17% of interviews of youth (age 12-17 years).

*Years administered:* 1977, 1979, 1982, 1985, and 1988, then annually since 1990.

*Sample size:* About 7,000 to 9,000 until 1993, then increased to 28,000. Blacks, Hispanics, and large metropolitan areas are oversampled. A small proportion (about 2% of total U.S. population) was excluded from the sample: military installations, jails, college dorms, hospitals, and homeless. Because prisoners and transients have higher use rates, particularly of rarely used drugs such as heroin, the NHSDA results are probably conservative as estimates for the total population.

*Questionnaire content* (and *n* items for each category): Cigarettes—(10); alcohol—(11); sedatives—(5); tranquilizers—(5); amphetamines and stimulants—(7); analgesics—(5); marijuana and hashish—(9); inhalants—(9); cocaine—(13); hallucinogens—(8); heroin—(7); drug reduction, increase, withdrawal, and needles—(10); drug tests, smokable “ice”, and steroids, incidents involving arrests, parole, stealing, fights, knife, gun, and drunken driving—(26); effects of drinking (fights and absence from school or work, etc.)—(19); depression—(11); drug treatment—(11); risk of harming self/others and ability/difficulty to get drugs—(22); and illnesses—(16). Demographics include: marital, employment/schooling, income, education, missed work/school, age, sex, health insurance, child support, and food stamps—(92).

*Report titles* (and NHSDA DHHS Publication Numbers):

*Highlights 1990* (ADM 91-1789)

*Population Estimates* (ADM 91-1732)

*Main Findings 1990* (ADM 91-1788)

*Population Estimates 1991, Revised 11-92* (ADM 92-1887)

These reports provide data about the prevalence and trends of various drug, alcohol, and tobacco use (see above categories) by the U.S. population. Data are presented by age, sex, and other demographics (see below). Information is also provided about problems resulting from use and perceptions of the harmfulness from use.

*Sample subgroups:* By age (12-17, 18-25, 26-34, 35+), sex, race/ethnic, region/metropolitan area, education and employment.

**Youth Risk Behavior Surveillance System (YRBSS) (formerly, through 1988, National Adolescent Student Health Survey [NASHS])**

*Sponsor:* Division of Adolescent and School Health (DASH) of Center for Disease Control (CDC), U.S. Dept. HHS

*Performer/contractor:* MACRO, now WESTAT

*Method of administration:* By staffs of schools

*Survey background/characteristics:* The survey is administered to students in grades 9-12. There are two school-based components: (1) national sample and (2) state/local samples, including the 15 largest unified school districts in the U.S. (San Diego is #8 in size). Of the six "health behavior" categories, drug/alcohol and tobacco uses are the interests of this project, although these two behaviors influence behaviors in other categories.

*Years administered:* 1991 and 1993, and continuing biennially.

*Sample size:* National  $n = 12,272$  (1991)  
State/local  $n$ 's = 369 - 5843  
San Diego District  $n = 658$

*Questionnaire content* (and  $n$  items of each category): Demographic—(5), car and motor/bicycle—(7), knife/club/gun—(5), fights—(4), attempted suicide—(4), tobacco—(10), alcohol—(5), marijuana—(4), cocaine and other drugs—(8), sexual activity and AIDS—(11), body weight and food/diet—(11), physical activity—(8). Thus, substance abuse items  $n = 27$ . (See Appendix D for complete questionnaire.)

*Report titles:*

*An epidemiological surveillance system to monitor the prevalence of youth behaviors that most affect health, Health Education 1990.*

In Morbidity and Mortality Weekly Reports (MMWR):

*Tobacco use among HS students—U.S. 1990, July 1991.*

*Current tobacco, alcohol, marijuana, and cocaine use among HS students—U.S. 1990, July 1991.*

*Alcohol and other drug use among HS students—US 1990, November 1991.*

*Selected tobacco-use behaviors and dietary patterns among HS students—U.S. 1991, June 1992.*

*Tobacco, alcohol, and other drug use among HS students—U.S. 1991, July 1992.*

*Sample subgroups:* By age, grade (9, 10, 11, and 12), race/ethnicity, gender.

## **Methodological Studies**

A series of very relevant methodological studies, using data from NIDA's NHSDA, were published in a book, *Survey Measurement of Drug Use*, by NIDA.<sup>1</sup> The studies assess the impact of measurement procedures on survey results, and demonstrate new techniques for diagnosing problems with questionnaire, and for designing improved ones. The studies were conducted by researchers of RTI and of NIDA. Generally, two basic questions are addressed, particularly in regard to the sensitive nature of the item content: (1) Are respondents telling the truth? and (2) Do they understand the meaning of the questions in the same way as the investigator does?

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<sup>1</sup>Turner, C. F., Lessler, J. T. & Gfroerer, J. C. (Eds.). (1992). *Survey measurement of drug use: methodological studies* (NIDA/DHHS [ADM] 92-1929). Washington, DC: U.S. Government Printing Office.

Methodological issues included the following: (1) Does the self-administered format truly enhance respondent's willingness to admit drug use? (2) How important is privacy? (3) Could less expensive modes, such as by telephone, obtain data of the same quality? (4) Is nonresponse bias a serious problem in estimates? (5) How well do respondents understand the complex definitions in the questionnaire? (6) Are there more efficient sample designs that could be used? Some of the studies are summarized below.

*Cognitive evaluation*—A taxonomy and coding scheme were developed to describe the types of problems that respondents may have when answering the questions that may interfere with accurate responses. The item features that were identified were derived from a general model of five cognitive processes: (1) comprehension, (2) interpretation of cognitive task, (3) information retrieval (interaction of memory processes and contents), (4) judgment processes (interaction of information integration and evaluation), and (5) response generation/selection. Results indicated that: (1) Alternative survey formats should be developed that offer respondents relatively little cognitive difficulty, thereby decreasing measurement error and (2) further laboratory research should quantify measurement error and develop more efficient methods to identify and eliminate error-prone items.

*Item nonresponse*—Of 14 categories, highest percentages of nonresponse were to items about use of heroin, inhalants, and cocaine. Lowest percentages of nonresponse were to items about alcohol, marijuana, tranquilizers, and cigarettes. The following reasons for nonresponse (in addition to the sensitivity issue) were suggested:

1. Nonusers who had already answered "never used," found the question about "use in past 30 days" redundant (so more "skip patterns" are needed).
2. The question was very long (thus, interviewer and respondent fatigue).
3. Respondents may not have noticed additional questions on the back of some pages (there were separate parts/forms for each category, and some were one-sided).
4. Some "valid multiple response" ("concomitant") questions had many alternatives (14), with nonuse alternatives at the bottom.
5. Respondents who were willing to admit use of alcohol, cigarettes, and some drugs, may not have been willing to admit use of "hard" drugs.

*Inconsistent response of drug use*—Was defined as different responses to two related questions, for example, "never used" in one question versus "had used" during the referenced period (of past 30 days) in another question. Of 80% of the total sample who said they used at least one drug during lifetime, 24% of those (thus 19% of total sample) answered at least one question inconsistently. The kinds of inconsistent responses were as follows:

1. Positive ("did use") responses were lower for the "hard" drugs (e.g., heroin) than for other kinds (e.g., marijuana).
2. Demographically, young respondents (34% of the sample) gave fewer inconsistent answers than did older ones.

3. Used "not applicable" (N/A) response incorrectly, for example, said "had used" alcohol during lifetime, but said "N/A" for use in past 30 days, instead of answering "zero."

4. In layout of alternatives, especially about concurrent uses, some marked "no concurrent use" without reading further down the list.

5. There was confusion on two wordings of recency, "past 30 days" versus "the past month" (whether that meant only part of the current month). NHSDA estimates are presently based on the assumption that, due to sensitivity, a single report of drug use should outweigh several denials. This assumption may not be warranted in all instances.

*Effects of mode of administration and wording*—Alternate forms with refined wording and branching/skip instructions were compared with current forms. Ability to respond to the refined, self-administered mode, form was better, even with the more complex branching instructions. Although the self-administered mode provides increased reporting of drug use, this comparative advantage is bought at the price of some loss of data (item nonresponse was higher, particularly for illicit drugs, compared with interviewer mode). Refined wording improved respondent understanding, but also yielded slightly higher nonresponse rates.

*Effects of decomposition of complex concepts*—In a field experiment, two complex concepts of respondent understanding of (1) "nonmedical use" of prescription drugs and (2) problems induced by drug use were tested by decomposing questions into several simpler elements. Rates of missing and faulty data were lower for the new (vs. current) wording, due to better understanding. Improvements also enabled assessment of whether drug users (vs. nonusers) report more problems, typically associated with drug use, regardless of whether respondents attributed those problems to drug use.

*Effect of telephone mode on self-report level*—NHSDA results (i.e., by in-home interview) were compared with telephone interviews in two experimental projects. The random digit dialing (RDD) technique was used to construct representative samples (of telephone households, about 93%)—a national sample in one project, and a sample of Texas residents in the other one. In both projects, self-report levels were lower by the telephone mode (considerably lower in the national sample), than by the in-home interview mode. In addition to administration mode, there were two other factors suggested that may account for the lower levels by telephone. One is that people may be more willing to reveal their drug use on a *self-administered* answer sheet—more feasible when provided by an in-home interviewer. The other factor concerns the *context* of the questionnaire—to design sequence of items so that items about illicit drug use are preceded by less sensitive items—typically not feasible during the relatively much briefer telephone interview.

## **Feasibility and Costs to Piggy-Back On-Going Projects**

### **Monitoring the Future**

For the HS sample, students are sampled randomly within each selected school. To administer a survey, in-school, to specific NDEPs, their names and school attended/location would have to be identified long in advance, to determine sampling and administration requirements—how many schools, in what areas, and how many ISR representatives (to travel to those sites) (see also Sample Identification below). Even if sample selection was limited to areas of relatively high density of NDEPs (e.g., Norfolk, San Diego, etc.), NDEPs would still be a small part of the total school

population in those areas. Thus, sampling procedures would be more complex, and project costs would be substantially increased, compared with present MTF sampling procedures.

For the post-HS survey, the sample is a follow-up drawn from HS seniors who previously participated, resulting in a favorable return rate—63 to 85% (helped also by the \$5 incentive enclosed with each survey, postcard, and telephone follow-ups). (A random sampling, by mail, of first-time respondents could be expected to result in a very low return rate—see Mail mode below.)

NIDA awarded a grant of \$18 million (M) to ISR for MTF survey research over the next 5 years. At \$3.6M per year, given annual samples of about 47,000 HS students and 9,000 follow-up young adults, average cost per respondent is \$64. If a relatively small sample, for example  $n = 2,000$ , of NDEP HS students were added to present MTF samples (but they could not, because of the increased complexity discussed above), the marginal ("piggy-back") cost would be \$128,000 (hereafter, \$K = \$1,000). As a **separate** project, while still using the MTF survey instrument, total project cost could exceed \$1M, or \$500 per respondent. (However, in discussion with one of the three MTF PI, he advises that, since MTF was recently expanded to 8th and 10th graders, they are short of staff and could not take on another project.)

Costs for the MTF contract include sampling, analysis, and reporting. Costs for performance by some other contractor, for data collection only, might be lower, possibly \$200-\$400 per respondent. However, the feasibility of going into school systems to survey *only* NDEPs in specific areas (as discussed above) is not known. (See discussion of complexities in Sample Identification below.)

For the second worldwide DODDS overseas (mostly in Europe) survey of 2,700 HS seniors (in 1987), DOD Health Affairs (HA) and Drug Abuse Resistance Education (DARE) added \$270K to NIDA funding to piggy-back MTF, thus \$100 per respondent. However, all students (dependents of all services and other government employees) were sampled, thus a small proportion of NDEPs.

### **National Household Survey on Drug Abuse**

Because the mode of administration is face-to-face interview in the home, this project is very labor intensive, and thus very costly. Strategies are applied to achieve a high rate of participation. For example, only 45% of all *screenings* (to select the household) were completed on the first visit. To raise the total screening to 93%, it took up to six visits (see Appendix C-2) and others took more than 12 visits. *Interview* completion rate was 82%, which was about 96% of the completed households screened (see Appendix C-3) and some of these also took more than 12 visits.

Project fixed/infrastructure costs are \$5.88M per year, and interviewer costs are \$150 per interview ( $\times \$150 = \$4.2\text{M}$ ). Thus, total cost is \$10.08M, or \$360 per interview. Cost also is based on 6 hours per interview (includes sample screening, travel, going back to respondents who were not home, etc.). This cost of \$360 per interview is quite reasonable for this mode of administration. For example, in survey projects conducted by the ISR of Temple University, their costs are typically \$300-\$500 per interview.

To piggy-back NHSDA with an NDEP sample, for example  $n = 4,000$ , thus enlarging the sample to 32,000 and sharing fixed costs, would reduce fixed costs per respondent from \$210 (\$5.88M/28K) to \$184 (\$5.88/32K). Thus, cost for 4,000 NDEPs would be fixed + interview ( $\$184 + \$150 = \$334$  per interview, and  $(\times 4,000)$  \$1.3M total. A **separate** project with the same



fixed costs for a small sample (i.e.,  $n = 4,000$ ), would of course, be much more costly  $[(\$450 \times 4K) + \$5.88M] / 4K = \$1,620$  per interview, and \$6.48M total).

### **Youth Risk Behavior Surveillance System**

Funding for this project is more complex and more fragmented than for the two projects above. CDC provides separate funds of \$10K to \$20K to each of the 50 states and 16 big-city educational systems, thus about \$1M. Another \$1M goes to contractors for technical support—survey design and printing for the above educational systems, and for survey and analysis of the national sample.

It would clearly not be feasible to piggy-back this project through CDC, because the national sample ( $n = 12K$ ) is too small to extract a sample of NDEPs, and local school systems determine their own sampling. However, there is one promising possibility. One of the 16 big-city unified school districts (San Diego, now number eight in size among the 16 big cities) has a relatively large representation of NDEPs.

It may be possible, at relatively low cost, to negotiate with San Diego school representatives to add a background/demographic item to identify NDEPs in, and enlarge total sample size. (But it may not be feasible to identify and assemble only NDEPs in-school to administer the survey.) For the next biennial survey in spring of 1995, items and sampling procedures would have to be submitted by August 1994.

### **Feasibility and Costs by Other Modes—No On-Going Projects**

#### **Telephone Mode**

There are no known projects on-going that apply this mode to such highly sensitive questions as admitted (self-reported) drug use. As described in Methodological Studies, some experimental projects were conducted (funded by NIDA through a FDA Quick Response [QRS] contract) in 1988. Reported use rates and completed response rate were both relatively low, compared with NHSDA responses. Nonetheless, this mode is the easiest (subject to one caveat—sample identification, see below) and most feasible to conduct, and costs per interview (CPI) are much less than household visit mode. Cost is also based on the duration of the interview, which is, of course, based on number of items.

Although the item content of primary interest is self-reported drug use, it may be noted from project descriptions above that it is essential to design the interview sequence with several nonsensitive items (demographics, attitudes, other activities, etc.) that precede the drug use items ("contextual" strategy). For a telephone 15-minute interview, a contractor's CPI would range from about \$35 to \$80 for data collection, excluding analysis and reporting (to be performed by some other organization, such as NPRDC). For a 50% response rate, consider a CPI of \$100 per completed call.

#### **Mail Mode**

Although this mode is the least costly, it is also the *least feasible*. No projects were found, on-going or completed, that used this mode for questions about self-reported drug use. Very experienced researchers and contract monitors in Dept.HHS agencies (NIDA and SAMSA) were asked if they were aware of any such studies. They were not. They suggested two reasons why mail mode is not feasible: (1) It is inadequate to establish a sense of trust for assurances of protected

confidentiality and (2) the sensitive questionnaire is not being administered in-person (as with household visit mode or in-school mode) by a staff member—not only establishing such trust face-to-face, but also achieving higher response rates.

The adult sample of the MTF project, as described above, is by registered mail (with a \$5 incentive enclosed, and follow-up reminders by letter, post card, and telephone). However, the sense of trust had already been established by in-person staff administration, in-school mode, and respondents had already volunteered their identity for follow-up (as adult respondents) purposes.

To use mail mode for NDEPs, questionnaires would, of course, be mailed to the household. Consider the difficulties described above in the NHSDA project (household interview mode) to reduce nonresponse rate—more than 12 visits for some respondents. During the NHSDA 1990 interviews, 44% of parents had refused consent for interviewing 12- to 17-year olds. A follow-up study of 234 refusals (adults and youth) in the NHSDA 1990 sample—using additional interview visits (average of 3), a shortened questionnaire, and a \$10 cash incentive—achieved only an additional 25% completion rate.

Unlike MTF and NHSDA follow-up procedures, if a mail mode is used for NDEPs and complete anonymity is promised, there is no way to identify specific nonrespondents. For follow-up, the only usable procedure would be to mail post cards “shot gun” to the total sample (with the typical communication. . . “if you haven’t already, please complete and mail back the questionnaire, or if you already have, thank you”). If a \$5-\$10 incentive is enclosed as a check payable to respondent, the promise of anonymity may be perceived to be violated when the check is endorsed. Further, a high nonresponse rate may result in substantial underreporting of drug use.

For the reasons discussed above, although mail mode does not appear to be feasible, the following scenario is presented for the purpose of estimating costs. Fixed costs are for the following: sample identification \$35K (see below), questionnaire design \$15K, and analysis and reporting \$55K, so total = \$105K. Costs per questionnaire are for printing, mailing, postcards, scanning \$6.50, and cash (by check) incentive \$5, so total = \$11.50. To achieve 2,000 completed questionnaires, estimating a 20% response rate, thus requires an initial mail out sample of 10,000 at a cost of \$115K, or \$57.50 per *completed* questionnaire. Thus, total fixed plus questionnaire costs are \$220K or \$110 per completed questionnaire.

### **Navy Dependents Sample Identification**

A requirement that is unique to the Navy project of interest, compared with the projects described above, concerns access to a sample of NDEPs. In all of the above projects involving national sampling, the samples were drawn randomly by area or oversampled for metropolitan areas, race/ethnicity, gender, or in the case of telephone mode by RDD. These procedures represent a part of the total cost charged by a contractor.

By contrast, the procedures to get access to a NDEP sample are more complex. The total NDEP population can be identified from the Defense Enrollment Eligibility Reporting System (DEERS) database (including age, sex, etc.) and Unit Identification Code (UIC) of the present command of the active duty member (sponsor). Thereafter, sampling would have to be different for different modes of administration—still random for *telephone* or *mail mode*, but oversampling in limited areas of high density of NDEPs (e.g., San Diego, Norfolk, etc.) for in-school or household visit mode.



After the sample is selected, additional steps of substantial effort are required. For Navy-wide random sampling (for telephone or mail mode), each sponsor's command must be contacted (by UIC) to request each sponsor's family home address and home telephone number (from unit master recall bill). For oversampling in NDEP high density concentrated areas (for in-school or household visit mode), all *fleet* units that are home-based (where the families are) in the selected areas, must first be identified via the six LANT/PAC SURF/AIR/SUB Force Commanders. The NDEP sample would be drawn only from those fleet units (plus, of course, shore units in the area), then local home addresses and telephone numbers requested from those units as described above.

For in-school mode, there is yet another step with either of two alternatives: (1) Match NDEP student's home address with school boundaries to determine specific school attended (this step is further compounded by desegregation bussing programs) or (2) send a preliminary letter to NDEP students' homes for them to state school attended.

Regardless of performer (contract or in-house) or mode of administration, sample identification would have to be performed in-house at a cost of about \$35K. This cost includes an initial requirement to identify the total population of NDEPs and, for sampling in concentrated areas, the part of the population in those areas. Consider a target of *completed* responses from 500 9th and 10th graders, 500 11th and 12th graders, and 1,000 adults (total  $n = 2,000$ ). Estimating a *nonresponse* rate (which may be different for youth and adults) from 40-80% (depending on mode) initial sample identification would be  $n = 10,000$ .

Also associated with the in-school mode, although not part of the sampling strategy, but an essential next step, are the requirements to (1) request permission to administer the survey in particular schools to specific students; (2) submit documentation to the school district's research review chain; and (3) if approved, negotiate and arrange for getting NDEP student respondents to specified classrooms at designated times. (A nice advantage of piggy-backing an on-going in-school mode project is that these necessary procedures have already been established and approved.)

## Discussion

### Validity of Measures of Self-Reported Drug Use

There is no direct objective data with which to validate survey responses, regardless of any above mode. The NHSDA investigators considered requesting hair samples (for chemical analysis) also from respondents, but concluded that it was not feasible.<sup>2</sup> Without a large-sample demonstration project, it is not known what impact the additional request for hair samples from respondents would have on response rate. Further, the hair sample analysis identifies use of only a small number of the several substances surveyed.

Nonetheless, the MTF investigators present seven reasons to suggest that the MTF procedures may be quite valid, and that underreporting may be minimal.<sup>3</sup> Some of their reasons include the

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<sup>2</sup>Turner, C. F., Lessler, J. T., & Gfroerer, J. C. (1992). Future directions for research and practice. In C. F. Turner, J. T. Lessler, & J. C. Gfroerer (Eds.), *Survey measurement of drug use: Methodological studies* (p. 305) (NIDA/DHHS [ADM] 92-1929). Washington, DC: U.S. Government Printing Office.

<sup>3</sup>Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1992). *Smoking, drinking, and illicit drug use among American secondary school students, college students, and young adults, 1975-1991* (Vol. 1) (NIDA NIH 93-3480). Washington, DC: U.S. Government Printing Office.

following ones: (1) high reliability over a 3-year time interval, (2) consistency among logically related measures, and (3) consistency with other behaviors and beliefs and their estimates of use by their friends, thus evidence of "construct validity." Further, the missing data rates for self-reported use questions were only slightly higher than for preceding nonsensitive questions. But perhaps most importantly, the elaborate procedures used to assure and protect confidentiality probably made students feel "safe" in answering the questions. (See Appendix E for a more detailed discussion of validity and consistency for trend data.)

### **Impact of Mode on Self-Report Level**

Generally, the levels of self-reported (acknowledged, admitted, etc.) drug use varies by mode of administration. Comparing four modes, typically: (1) in-school self-administered is highest, followed by (2) in-house self-administered (where materials are handed to respondent by interviewer), then (3) in-house interview, and (4) telephone mode is lowest. Given the extremely sensitive nature of the questions, the variation across modes appears to be influenced by three factors: (1) "social distance" (from parents, so in-school administration is most "distant"); (2) credibility of assurances and demonstrations of confidentiality; and (3) credibility of in-home face-to-face interviewer being higher than telephone interviewer.

### **Advantages of Extracting Available Data**

The surveys described above of substance abuse in civilian populations (youth and young adults) funded by various agencies within Dept. HHS, have been on-going for several years and are presently funded at about \$15M per year. Consider, the Navy needs (to estimate the extent of abuse of various substances among NDEPs, youth and parents) to: (1) identify extent of the problem and (2) target/prioritize education and other actions for avoiding/resisting use of specific substances (those identified as the most serious or pervasive problems).

Given the enormous cost of surveys to acquire the needed data, the least costly approach for Navy would be to extract data of interest from reports of completed surveys, *if* the values apply similarly to NDEPs. Whether the results are similar, is problematic. There are three ways to relate results across populations: (1) administer a similar survey, (2) convene focus groups to estimate similarities or differences, or (3) assume similarity. For NDEPs, ways 1 and 2 both pose potential difficulty in getting access to respondents. Way 1 will be very costly (varying by mode).

Way 3, assumption of similarity, may be quite reasonable. In discussions with the coordinator of YRBS in the San Diego school system, he believes that there would be little difference between results from NDEP and nonNDEP students. Further, mode of administration appears to have a far greater impact on self-report level than does subgroup membership (e.g., gender, school grade, non/NDEP, etc.). Consider differences in **mode** among the above three projects. NHSDA mode is in-home interview, thus not very convincingly anonymous to respondents. MTF mode is in-school with respondent identified (only to MTF staff, for follow-up survey). YRBS mode is in-school, completely anonymous. Note in Table 1 the impact on self-report levels for two grades, on one (marijuana) of several substances surveyed in these three surveys.<sup>4</sup>

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<sup>4</sup>Data for comparable subgroups were extracted from most recently available reports—1991 MTF, 1990 NHSDA, and 1990 YRBS.

Interestingly, and perhaps surprisingly, no study or review was found that addresses this important *methodological issue* (impact of mode on self-report level across these three projects), compared by specific substance across subgroups such as by age or gender. Further, in the

**Table 1**

**Impact of Mode on Self-Report Levels for Percentages of  
10th and 12th Graders Who Ever Used Marijuana**

Project	10th Grade (%)	12th Grade (%)
NHSDA 1990	15.4	24.8
MTF 1991	23.4	36.7
YRBS 1990	27.9	42.2

experimental projects described in Methodological Studies that compared telephone versus in-home interview modes, results by telephone were lower than those by in-home (NHSDA) mode. Thus, results by telephone mode are lower than the lowest of the three modes in Table 1.

These three projects have been on-going for 10-20 years, and thus also provide important *trend* information. Regardless of whether above way 1 or 2 is undertaken, especially if just on a one-time-only basis, this proposed (relatively low-cost) extraction of relevant data will have important uses also to monitor progress on intervention actions in the Navy. Consider that, even if NDEP use rates are lower but still above zero, given the continuing exposure to others in the community, the need for drug resistance/avoidance education and other actions is just as urgent.

Models might be developed to estimate the difference between NDEP and national samples. For example, comparing overseas DODDS HS seniors with the national (stateside) sample, most use rates in DODDS were lower, but a few were similar or higher. Thus, there is an additional advantage of extracting available data. That is, if a survey of NDEPs, by some specified mode of administration, is funded, it will be necessary, or at least certainly prudent, to compare results with other similar, as well as different, modes of administration. Further, to make such comparisons, it will be necessary to use items identical to those of one of the three projects.

### **Relationship of Survey Content to Intervention Strategies**

The purpose of substance abuse surveys, of the kinds assessed in this report, is typically to provide information to management for one or more of the following five uses: (1) identifying problems, (2) monitoring trends, (3) relating substance abuse to other risk behaviors (health, performance, crime, etc.), (4) designing intervention programs, and (5) assessing effectiveness of intervention actions. For purposes 3, 4, or 5, other related on-going programs also need to be identified and assessed, particularly in regard to relating specific intervention components to specific items or sections of a survey. For a pilot or demonstration project, two other necessary considerations are: (1) identification of all other on-going intervention activities (to which NDEPs are exposed, particularly in schools) and (2) characteristics of the sample to be targeted in the particular location of the pilot project. Thus, the feasibility question, as to mode and sampling location of a survey, can not be addressed in a vacuum.

## Matrix of Factors

When a great diversity of information is needed for decision making, it is useful to organize the data by factors and display them as concisely as possible. Texts on survey research methods were searched for matrix designs as tools for decisions relevant to this feasibility investigation—selection of survey mode of administration and procedures.

Table 2 provides a matrix design approach for comparing several factors as a basis for selecting a particular mode of administration.<sup>5</sup> Although this approach provides some interesting ideas and is useful for selecting one of several kinds of surveys (attitudinal, marketing, etc.), its coverage is too simplistic and limited for a survey containing very sensitive items about drug use.

**Table 2**  
**Comparison of Data Collection Methods**

Factor	Personal	Telephone	Mail	In-school
Data collection costs	High	Medium	Low	Medium
Data collection time required	Medium	Low	High	Low
Sample size for a given budget	Small	Medium	Large	Medium
Data quantity per respondent	High	Medium	Low	High
Reaches widely dispersed sample	No	Maybe	Yes	No
Reaches special locations	Yes	Maybe	No	Some
Interaction with respondents	Yes	Yes	No	Some
Degree of interviewer bias	High	Medium	None	None
Severity of nonresponse bias	Low	Low	High	Low
Presentation of visual stimuli	Yes	No	Maybe	Maybe
Field worker training required	Yes	Yes	No	Some
Effectiveness for sensitive questions	High	Low	Low	High

To make it more relevant, a column on the right (In-school) and a row on the bottom (Effectiveness for sensitive questions), were added. Further, some of the assessments may not adequately relate to the sensitivity concern. For example, for the factor "Severity of non-response bias," instead of the present Low-Low-High, the marks should probably be Medium-High-High.

Tables 3 and 4 were designed specifically to address the concerns of this feasibility project. Table 3 summarizes information about the three on-going projects funded by Dept. HHS agencies. The overview in the matrix format enables a variety of comparisons. For example, comparing cost versus self-report level, highest cost and lowest self-report level is by NHSDA mode. Lowest cost and highest self-report level is by YRBS mode.

Table 4 assessments and costs are necessarily more speculative than those for the on-going projects in Table 3, because (1) there are no comparable projects for administration mode by mail or telephone; (2) sample identification of NDEPs is more complex; and (3) costing is more complex (separate estimates for sample identification, data collection, and analysis and reporting).

<sup>5</sup>Alreck, P. L., & Settle, R. B. (1985). *The survey research handbook* (Figure 2-4, p. 41.). Homewood, IL: Irwin, Inc.

By contrast, all of these functions (except for YRBS local samples) were performed by contractor in the three Dept. HHS projects. Further, costs per NDEP respondent are higher, because various fixed/infrastructure costs are spread across a much smaller sample.

Table 3

### Considerations for Alternative Survey Methods: Piggy-Back On-Going Projects

Factor	Monitoring the Future (MTF)	National Household Survey on Drug Abuse (NHSDA)	Youth Risk Behavior Surveillance System (YRBS)
Administration Mode	HS: in-school, Adult: by-mail	In-home interview	In-school
Population (national)	HS grades 8/10/12, Adult age 18-32	Age 12-17, 18-25, 26-34, 35+	Nat'l + 16 metro. areas: grades 9-12
Sample size	HS = 47K (8 = 17K, 10 = 15K, 12 = 15K), Adult = 9K	Total youth and adult = 28K	Nat'l = 12,272, State and metros 369-5,843
Sampling procedure	HS: 3-stage—area, HS, student Adults are follow-ups from HS seniors	Households screened in sampling areas to get representative sample	Via school systems—all States and 16 metros
How confidentiality protected	Via staff assurances and elaborate secret coding/matching	Via interviewer assurances and procedures	Anonymous
Response rate (%)	HS: 77-86%, Adult: 63-85%	Overall: 82-96%, Youth: 56%	National: 90%, State/metro: 44-96%
Relative level of self-reported drug use	Mid	Low	High
Validity of self-reported use	Unknown	Unknown	Unknown
Difficulty of incorporating NDEPs into present sampling	Cannot	Easy	Cannot, except San Diego: moderate
Estimated total annual costs	\$3.6M	\$10M	\$2M
Per respondent	\$64	\$360	\$27
Per added NDEP respondent	\$100 (DODDS only)	\$334	\$27 (San Diego only)
Overview of relative:			
Advantages			
Cost	Mid	—	Low
Response rate	High	—	High
Self-report level	Mid	—	High
Other	Long-term project, well established procedures	Long-term project, well established procedures could easily add NDEPs	Long-term project, well established procedures
Disadvantages			
Cost	—	High	—
Response rate	—	Mid (adult), Low (youth)	—
Self-report level	—	Low	—
Other	Few NDEPs, can't piggy-back, can't use HS seniors for adult NDEPs	Few NDEPs	Few NDEPs no adults, can piggy-back only in San Diego

Note. NDEPs = Navy dependents, HS = high school.

**Table 4**  
**Consideration for Alternative Survey Methods:**  
**Separate NDEP Project**

Factor	Mode of Administration				
	Mail	In-school	Interview		Focus Group
			Household Face-to-Face	Telephone	
Population	Youth grade 9-12, Adult age 17-35				
Sample size	Grade 9 and 10 = 500, grade 11 and 12 = 500; Adult (spouse, parent, etc.) = 1,000 Total $n$ = 2,000 completed surveys Initial sampling $n$ = 10, 00				$n$ = 160 San Diego & NORVA (each) Grade 9 and 10 = 20 Grade 11 and 12 = 20 Adult = 40
Sampling procedure—random within area of:	CONUS	San Diego & NORVA	San Diego & NORVA	CONUS	San Diego & NORVA
How confidentiality protected—assurance by:	Mail	Anonymous	Interviewer	Interviewer	Facilitator, anonymous
Cash incentive for response/participation	\$10	—	—	—	\$20
Expected response rate	Low	High	Youth: low, Adult: mid	Low	High
Expected level of self-reported drug use	Low	High	Mid	Low	(not applicable)
Validity of self-report use	Unknown	Unknown	Unknown	Unknown	—
Estimated costs for data collection	Contract				(in-house)
Total annual	\$115K	\$600K	\$3.2M	\$200K	\$5K
Per completed respondent	\$58	\$300	\$1,620	\$100	\$31
For sampling/design/analysis annual total	\$105K				\$45K
Per completed respondent	\$53	\$53	\$53	\$53	\$281
Total per completed respondents	\$111	\$353	\$1,673	\$153	\$312
Overview of relative					
Advantages					
Cost	Low	Mid	—	Low	Low
Response rate	—	High	Mid	—	High
Self-report level	—	High	Mid	—	(not applicable)
Other					Useful to pretest questionnaire
Disadvantages					
Cost	—	—	High	—	—
Response rate	Low	—	—	Low	—
Self-report level	Low	—	—	Low	—
Other		No adults, long lead time for school's approval chain			Can't use/pretest self-report items, dependent on local command/ombudsman support

Note.  $n$  = number; NORVA = Norfolk, VA; CONUS = Continental United States.

## Conclusions

1. Because of the extreme sensitivity of self-report items about admitted substance abuse, special consideration must be given to many aspects of questionnaire design and mode of administration.

2. Response rate varies by mode of administration—highest by in-school, then by interview (household, then telephone), and probably lowest by mail. Response rate appears to vary with the credibility of the assurance of confidentiality.

3. Low response rate would probably result in severely depressed self-report level.

4. The most feasible (easiest and least costly) modes, by-mail and by-telephone, would probably result in lowest response rate and self-report level.

5. Because of the concern for item sensitivity and its impact on response rate and self-report levels, the three long-term projects (described above) use in-school and household interview mode for initial survey of respondent (then one uses follow-up mail mode). None uses telephone or initial mail mode.

6. There is no objective feasible way to validate self-report responses, regardless of mode. (e.g., it would not be feasible to conduct simultaneous chemical analysis tests of each respondent. Further, such tests could only identify recent use.) After conducting various analyses of consistency and content validity, investigators suggest that underreporting may be minimal. Nonetheless, substantial differences in self-report levels do exist among the three long-term projects described above.

7. Identification and location of a sample of NDEPs would require far more complex procedures than for a national sample—starting with the DEERS, then letters to commands (some in specific areas) for dependents' local address and telephone number.

8. Because of Navy's unique sampling requirements, use of the two modes that are best for response rate, in-school and household interview, would probably have to be limited to areas in which there are relatively high density of NDEPs (Norfolk, San Diego, etc.).

9. Considerable data on use rates are available from national samples. Given the enormous costs of the surveys and abundance of reports of results, there appears to be considerable data that are relevant to NDEPs.

10. NDEPs typically reside in communities in which various drug reduction programs are ongoing, particularly in the schools. Awareness and details of those programs are necessary in order to determine how Navy intervention programs will complement, supplement, or reinforce other programs.



## Recommendations

Recommendations are made for various modes of administration. Alternatives are grouped by relatively "high-cost" and "low-cost" sets of options. One consideration, however, is common to all options—to use items identical to the ones in either MTF, NHSDA, or YRBS for a similar mode of administration to NDEPs.

### High-Cost

Because of the necessary and tedious efforts to identify a sample of NDEPs, as described above, sample size may have to be limited—initial sampling to achieve *completed responses* from a total of  $n = 2,000$ —500 = 9th and 10th graders, 500 = 11th and 12th graders, and 1,000 = adults (spouse, parent, etc.), ages 17 through 34 years old. In parentheses after each option, is an estimated cost per *completed* questionnaire for data collection, thus *excluding* the above fixed costs of \$105K for sample identification, questionnaire design, and analysis.

With item content to include self-reported use of drugs, preceded by nonsensitive items, conduct survey by category of NDEP and mode of administration as follows:

1. Youth and adult by *household visit*, randomly sampled only in areas of NDEP high density (San Diego, Norfolk, etc.) (\$334).
2. Youth and adult by *telephone*, CONUS-wide random sample (\$100).
3. Youth (9th-12th grade) by *in-school* administration, randomly sampled only in areas of NDEP high density (\$300).
4. Youth and adult by *mail*, CONUS-wide random sample (\$57.50)—not recommended, except by low-cost approach 4(1).

### Low-Cost

The following approaches are suggested.

1. Extract data of interest from available survey results, either (1) assume that NDEP use is similar or (2) use the extracted data as a base, and adjust for NDEP use by any of the approaches below. Identify and describe relevant on-going intervention programs. Describe how particular survey items or sections are linked to those programs to monitor trends and assess effectiveness.
2. Convene small focus groups, about  $n = 20$  each of 3 groups (grades 9 and 10, grades 11 and 12, adults) and discuss their observations/estimates of use, exposure, and availability among other NDEPs and nonNDEPs, but do **not** discuss/ask about focus group participants' use. (This approach will require preliminary notification from Chief of Naval Personnel to force commanders of participating units. A trial effort in the San Diego area produced little progress.)
3. Work with the San Diego schools YRBS coordinator—to identify NDEPs and enlarge the sample.

4. Assess the effectiveness of computer technology by administering the YRBS in a local school, both by paper-and-pencil and by computer terminal modes, and comparing results. (This approach will, of course, require review and approval from a school district. If approved and conducted, the results have the potential for an important contribution to the knowledge base well beyond just military applications.)

5. Pilot-test a survey to NDEPs, distributed to separate samples by two alternative modes: (1) by mail and (2) via Force/Command/Unit ombudspersons. Compare percentage returns and response distributions. Note: Item content (as in #2 above) would **not** ask about admitted use, but rather, for observations/estimates of use/availability of others.

**Appendix A**  
**Monitoring the Future (MTF) Questionnaire**

## PART A

**BEFORE BEGINNING BE SURE YOU HAVE  
READ THE INSTRUCTIONS ON THE COVER.**

1. What is your grade level in school?

- ① 7th grade
- ② 8th grade
- ③ 9th grade
- ④ 10th grade
- ⑤ 11th grade
- ⑥ 12th grade

2. Taking all things together, how would you say things are these days—would you say you're very happy, pretty happy, or not too happy these days?

- ③ Very happy
- ② Pretty happy
- ① Not too happy

3. The next questions ask about the kinds of things you might do. How often do you do each of the following? (Mark one circle for each line.)

- a. Go to movies ..... ⑥ ④ ③ ② ①
- b. Go to rock concerts ..... ⑤ ④ ③ ② ①
- c. Ride around in a car  
(or motorcycle) just for fun ..... ⑤ ④ ③ ② ①
- d. Participate in community affairs  
or volunteer work ..... ⑥ ④ ③ ② ①
- e. Actively participate in sports,  
athletics or exercising ..... ⑤ ④ ③ ② ①
- f. Get together with friends  
informally ..... ⑤ ④ ③ ② ①
- g. Go shopping or window-shopping ..... ⑤ ④ ③ ② ①
- h. Spend at least an hour of  
leisure time alone ..... ⑤ ④ ③ ② ①
- i. Read magazines ..... ⑤ ④ ③ ② ①
- j. Read newspapers ..... ⑤ ④ ③ ② ①
- k. Go to parties or other social  
affairs ..... ⑥ ④ ③ ② ①

4. How often do you use each of the following to get information about news and current events? (Mark one circle for each line.)

- a. Radio ..... ⑥ ④ ③ ② ①
- b. TV ..... ⑥ ④ ③ ② ①
- c. Newspaper ..... ⑥ ④ ③ ② ①
- d. Magazines ..... ⑥ ④ ③ ② ①

Almost every day  
 At least once a week  
 Once or twice a month  
 A few times a year  
 Never

5. How many hours do you estimate that you spend listening to the radio on an average DAY?

- ① None
- ② Half-hour or less
- ③ About one hour
- ④ About two hours
- ⑤ About three hours
- ⑥ About four hours
- ⑦ Five hours or more

6. How much TV do you estimate you watch on an average WEEKDAY?

- ① None
- ② Half-hour or less
- ③ About one hour
- ④ About two hours
- ⑤ About three hours
- ⑥ About four hours
- ⑦ Five hours or more

7. How much TV do you estimate you watch on an average WEEKEND (both Saturday and Sunday combined)?

- ① None
- ② Less than 1 hour
- ③ 1 - 2 hours
- ④ 3 - 4 hours
- ⑤ 5 - 6 hours
- ⑥ 7 - 8 hours
- ⑦ 9 hours or more

8. Now thinking back over the past year in school, how often did you...

- a. Enjoy being in school? ..... ① ② ③ ④ ⑤
- b. Hate being in school? ..... ① ② ③ ④ ⑤
- c. Try to do your best work in school? ..... ① ② ③ ④ ⑤
- d. Find the school work too hard to understand? ..... ① ② ③ ④ ⑤
- e. Find your course work interesting? ..... ① ② ③ ④ ⑤
- f. Fail to complete or turn in your assignments? ..... ① ② ③ ④ ⑤
- g. Get sent to the office, or have to stay after school, because you misbehaved? ..... ① ② ③ ④ ⑤

Never  
 Seldom  
 Sometimes  
 Often  
 Almost Always

9. On the average over the school year, how many hours per week do you work in a paid job?

- ① None
- ② 5 or less hours per week
- ③ 6 to 10 hours per week
- ④ 11 to 15 hours per week
- ⑤ 16 to 20 hours per week
- ⑥ 21 to 25 hours per week
- ⑦ 26 to 30 hours per week
- ⑧ More than 30 hours per week

10. Think about the kinds of paid jobs that people your age usually have. If you could work just the number of hours that you wanted, how many hours per week would you PREFER to work during the school year?

- ① None
- ② 5 or less hours per week
- ③ 6 - 10
- ④ 11 - 15
- ⑤ 16 - 20
- ⑥ 21 - 25
- ⑦ 26 - 30
- ⑧ More than 30 hours per week
- ⑨ Don't know, can't say

11. How many hours per week do you think your PARENTS would prefer that you work in a paid job during the school year?

- ① None
- ② 5 or less hours per week
- ③ 6 - 10
- ④ 11 - 15
- ⑤ 16 - 20
- ⑥ 21 - 25
- ⑦ 26 - 30
- ⑧ More than 30 hours per week
- ⑨ Don't know, can't say

12. During an average week, how much money do you get from...

- a. A job or other work ... ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
- b. Other sources (allowances, etc.) ..... ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

13. Which of the job categories below comes closest to the kind of work you have done for pay on your current (or most recent) job? (If more than one kind of work, choose the one where you worked the most hours. Do not include work around the house.)

- ① Have not worked for pay
- ② Lawn work
- ③ Fast food worker
- ④ Waiter or waitress
- ⑤ Newspaper route
- ⑥ Babysitting or childcare
- ⑦ Farm or agricultural work
- ⑧ Store clerk or salesperson
- ⑨ Office or clerical
- ⑩ Odd jobs
- ⑪ Other

The next questions are about feeling unsafe — that is, feeling that someone might try to harm or injure you.

14. How often do you feel unsafe when you are at school?

- ① Never
- ② Rarely
- ③ Some days
- ④ Most days
- ⑤ Every day

15. How often do you feel unsafe going to or from school?

- ① Never
- ② Rarely
- ③ Some days
- ④ Most days
- ⑤ Every day

16. During the LAST FOUR WEEKS, how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?

- ① 0 days
- ② 1 day
- ③ 2 or 3 days
- ④ 4 or more days

17. Do you feel that the rules about student behavior in your school are generally fair and reasonable?

- ⑤ Yes
- ④ Yes, mostly
- ③ Don't know, can't say
- ② No, mostly
- ① No

18. The next questions ask your opinions about a number of different topics. How much do you agree or disagree with each statement below? (Mark one circle for each line.)

- a. Men and women should be paid the same money if they do the same work..... ① ② ③ ④ ⑤
- b. A woman should have the same job opportunities as a man ..... ① ② ③ ④ ⑤
- c. It is usually better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family ... ① ② ③ ④ ⑤
- d. If a wife works, her husband should take a greater part in housework and childcare..... ① ② ③ ④ ⑤
- e. A working mother can establish just as warm and secure a relationship with her children as a mother who does not work ..... ① ② ③ ④ ⑤

19. Individuals differ in whether or not they disapprove of people doing certain things. Do YOU disapprove of people doing each of the following?

- |  | Don't Disapprove | Disapprove | Strongly Disapprove | Can't Say, Drug Unfamiliar |
|--|------------------|------------|---------------------|----------------------------|
| a. Smoking one or more packs of cigarettes per day .....                       | ①                | ②          | ③                   | ④                          |
| b. Using smokeless tobacco regularly ....                                      | ①                | ②          | ③                   | ④                          |
| c. Trying marijuana once or twice .....  | ①                | ②          | ③                   | ④                          |
| d. Smoking marijuana occasionally .....  | ①                | ②          | ③                   | ④                          |
| e. Smoking marijuana regularly .....   | ①                | ②          | ③                   | ④                          |
| f. Trying cocaine in powder form once or twice.....                            | ①                | ②          | ③                   | ④                          |
| g. Taking cocaine powder occasionally .....                                    | ①                | ②          | ③                   | ④                          |
| h. Trying "crack" cocaine once or twice .....                                  | ①                | ②          | ③                   | ④                          |
| i. Taking "crack" cocaine occasionally .....                                   | ①                | ②          | ③                   | ④                          |
| j. Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)..... | ①                | ②          | ③                   | ④                          |
| k. Taking one or two drinks nearly every day .....                             | ①                | ②          | ③                   | ④                          |
| l. Having five or more drinks once or twice each weekend.....                  | ①                | ②          | ③                   | ④                          |
| m. Sniffing glue, gases, or sprays once or twice .....                         | ①                | ②          | ③                   | ④                          |
| n. Sniffing glue, gases, or sprays regularly .....                             | ①                | ②          | ③                   | ④                          |
| o. Taking steroids for body-building or to improve athletic performance .....  | ①                | ②          | ③                   | ④                          |

20. The next questions ask for your opinions on the effects of using certain drugs and other substances. How much do you think people risk harming themselves (physically or in other ways), if they...

- |   | No Risk | Slight Risk | Moderate Risk | Great Risk | Can't Say, Drug Unfamiliar |
|---|---------|-------------|---------------|------------|----------------------------|
| a. Smoke one or more packs of cigarettes per day .....                      | ①       | ②           | ③             | ④          | ⑤                          |
| b. Use smokeless tobacco regularly .....                                    | ①       | ②           | ③             | ④          | ⑤                          |
| c. Try marijuana once or twice .....  | ①       | ②           | ③             | ④          | ⑤                          |
| d. Smoke marijuana occasionally .....                                       | ①       | ②           | ③             | ④          | ⑤                          |
| e. Smoke marijuana regularly .....  | ①       | ②           | ③             | ④          | ⑤                          |
| f. Try cocaine in powder form once or twice.....                            | ①       | ②           | ③             | ④          | ⑤                          |
| g. Take cocaine powder occasionally .....                                   | ①       | ②           | ③             | ④          | ⑤                          |
| h. Try "crack" cocaine once or twice .....                                  | ①       | ②           | ③             | ④          | ⑤                          |
| i. Take "crack" cocaine occasionally .....                                  | ①       | ②           | ③             | ④          | ⑤                          |
| j. Try one or two drinks of an alcoholic beverage (beer, wine, liquor)..... | ①       | ②           | ③             | ④          | ⑤                          |
| k. Take one or two drinks nearly every day .....                            | ①       | ②           | ③             | ④          | ⑤                          |
| l. Have five or more drinks once or twice each weekend .....                | ①       | ②           | ③             | ④          | ⑤                          |
| m. Sniff glue, gases, or sprays once or twice .....                         | ①       | ②           | ③             | ④          | ⑤                          |
| n. Sniff glue, gases, or sprays regularly .....                             | ①       | ②           | ③             | ④          | ⑤                          |
| o. Take steroids for body-building or to improve athletic performance ..... | ①       | ②           | ③             | ④          | ⑤                          |

## PART B

The following questions are about cigarette smoking.

1. Have you ever smoked cigarettes?

- ① Never--GO TO QUESTION 4
- ② Once or twice
- ③ Occasionally but not regularly
- ④ Regularly in the past
- ⑤ Regularly now

2. How frequently have you smoked cigarettes during the past 30 days?

- ① Not at all
- ② Less than one cigarette per day
- ③ One to five cigarettes per day
- ④ About one-half pack per day
- ⑤ About one pack per day
- ⑥ About one and one-half packs per day
- ⑦ Two packs or more per day

3. Have you ever tried to stop smoking and found that you could not?

- ① Yes
- ② No

4. Next we want to ask you about drinking alcoholic beverages, including beer, wine, wine coolers, and liquor.

Have you ever had any beer, wine, wine coolers, or liquor to drink?

- ① No--GO TO QUESTION 8
- ② Yes

5. On how many occasions have you had alcoholic beverages to drink...

(Mark one circle for each line.)

a ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦

b ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦

c ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦

6. Think back over the LAST TWO WEEKS. How many times have you had five or more drinks in a row?

(A "drink" is a glass of wine, a bottle of beer, a wine cooler, a shot glass of liquor, or a mixed drink.)

- ① None
- ② Once
- ③ Twice
- ④ Three to five times
- ⑤ Six to nine times
- ⑥ Ten or more times

7. On how many occasions (if any) have you been drunk or very high from drinking alcoholic beverages?

a ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦

b ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

8. The next major section of this questionnaire deals with various other drugs. There is a lot of talk these days about this subject, but not enough accurate information. Therefore, we still have a lot to learn about the actual experiences and attitudes of people your age.

We hope that you can answer all questions, but if you find one which you feel you cannot answer honestly, we would prefer that you leave it blank.

Remember that your answers will be kept strictly confidential; they are never connected with your name or your class.

On how many occasions (if any) have you used marijuana (grass, pot) or hashish (hash, hash oil)...

(Mark one circle for each line.)

a ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦

b ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

9. On how many occasions (if any) have you used LSD ("acid")...

a ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦

b ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

10. On how many occasions (if any) have you used psychedelics other than LSD (like PCP, mescaline, peyote, psilocybin)...

a ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦

b ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

11. On how many occasions (if any) have you used "crack" (cocaine in chunk or rock form)...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

12. On how many occasions (if any) have you used cocaine in any other form (like cocaine powder)...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

13. Amphetamines have been prescribed by doctors to help people lose weight or give people more energy. They are sometimes called uppers, ups, speed, bennies, dexies, pep pills, and diet pills. Drugstores are not supposed to sell them without a prescription from a doctor.

Amphetamines do NOT include any non-prescription drugs such as over the counter diet pills (like Dexatrim) or stay awake pills (like No-Doz), or any mail-order drugs.

On how many occasions (if any) have you taken amphetamines on your own—that is, without a doctor telling you to take them...

a. ...in your lifetime? ..... 0 Occasions 1-2 Occasions 3-5 Occasions 6-9 Occasions 10-19 Occasions 20-39 Occasions 40 or More  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

14. Barbiturates are sometimes prescribed by doctors to help people relax or get to sleep. They are sometimes called downs, downers, goofballs, yellows, reds, blues, rainbows.

On how many occasions (if any) have you taken barbiturates on your own—that is, without a doctor telling you to take them...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ... ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ..... ① ② ③ ④ ⑤ ⑥ ⑦

15. Tranquilizers are sometimes prescribed by doctors to calm people down, quiet their nerves, or relax their muscles. Librium, Valium, and Miltown are all tranquilizers.

On how many occasions (if any) have you taken tranquilizers on your own—that is, without a doctor telling you to take them...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦

16. On how many occasions (if any) have you used heroin...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦

17. There are certain narcotic drugs which doctors sometimes prescribe to relieve severe pain, to prevent coughing, or to control diarrhea. These drugs include morphine, codeine, paregoric, demerol, talwin, and laudanum. Drug stores are not supposed to sell them without a prescription.

On how many occasions (if any) have you taken narcotics other than heroin on your own—that is, without a doctor telling you to take them...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦

18. On how many occasions (if any) have you sniffed glue, or breathed the contents of aerosol spray cans, or inhaled any other gases or sprays in order to get high...

a. ...in your lifetime? ..... 0 1-2 3-5 6-9 10-19 20-39 40+  
 ① ② ③ ④ ⑤ ⑥ ⑦

b. ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦

c. ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦



19. Steroids, or anabolic steroids, are sometimes prescribed by doctors to promote healing from certain types of injuries. Some athletes, and others, have used them to try to increase muscle development.

On how many occasions (if any) have you taken steroids on your own – that is, without a doctor telling you to take them...

- a. ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦
- b. ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦
- c. ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦

0 Occasions  
1-2 Occasions  
3-4 Occasions  
5-9 Occasions  
10-19 Occasions  
20-39 Occasions  
40 or More

20. On how many occasions (if any) have you taken any drugs by injection with a needle (like heroin, cocaine, amphetamines, or steroids)...

Do NOT include anything you took under a doctor's orders.

- a. ...in your lifetime? ..... ① ② ③ ④ ⑤ ⑥ ⑦
- b. ...during the last 12 months? ① ② ③ ④ ⑤ ⑥ ⑦
- c. ...during the last 30 days? ... ① ② ③ ④ ⑤ ⑥ ⑦

0 Occasions  
1-2 Occasions  
3-4 Occasions  
5-9 Occasions  
10-19 Occasions  
20-39 Occasions  
40 or More

21. In addition to the drugs we have already asked you about, have you ever used any other drug or drugs for non-medical reasons?

② Yes - If so, please write the name(s) of the drug(s) on the inside of the front cover.

① No

## PART C

The next questions ask for some background information about yourself.

1. How old were you on your last birthday?

- ① 11 years old or less      ⑤ 15 years old  
② 12 years old      ⑥ 16 years old  
③ 13 years old      ⑦ 17 years old  
④ 14 years old      ⑧ 18 years old or more

2. What is your sex?

- ① Male      ② Female

3. How do you describe yourself?

- ① American Indian (Native American)  
② Black or African American  
③ Mexican American or Chicano  
④ Cuban American  
⑤ Puerto Rican American  
⑥ Other Latin American  
⑦ Oriental or Asian American  
⑧ White or Caucasian  
⑨ Other

4. What was the first language you learned to speak when you were a child? (Mark One)

- ① English  
② Spanish  
③ Some other language

5. Where are you living now?

- ① On a farm  
② In the country, not on a farm  
③ In a city or town

6. Which of the following people live in the same household with you? (Mark all that apply.)

- Father (or stepfather)      ○ Grandparent(s)  
○ Mother (or stepmother)      ○ Other relative(s)  
○ Brothers (or stepbrothers)      ○ Non-relative(s)  
○ Sisters (or stepsisters)      ○ I live alone

7. On average, how much time do you spend after school each day at home with no adult present? (Count the hours between the end of school and when you go to bed.)

- None or almost none      ○ 2-3 hours  
○ Less than 1 hour      ○ 3-5 hours  
○ 1-2 hours      ○ More than 5 hours

The next three questions ask about your parents. If you were raised mostly by foster parents, step-parents or others, answer for them. For example, if you have both a step-father and a natural father, answer for the one that was the most important in raising you.

8. What is the highest level of schooling your father completed?

- ① Completed grade school or less
- ② Some high school
- ③ Completed high school
- ④ Some college
- ⑤ Completed college
- ⑥ Graduate or professional school after college
- ⑦ Don't know, or does not apply

9. What is the highest level of schooling your mother completed?

- ① Completed grade school or less
- ② Some high school
- ③ Completed high school
- ④ Some college
- ⑤ Completed college
- ⑥ Graduate or professional school after college
- ⑦ Don't know, or does not apply

10. Does your mother have a paid job?

- ① No
- ② Yes, part-time job
- ③ Yes, full-time job

11. The next three questions are about religion.

a. What is your religious preference?

- |                           |                     |
|---------------------------|---------------------|
| ① Baptist                 | ⑩ Unitarian         |
| ② Churches of Christ      | ⑪ Roman Catholic    |
| ③ Disciples of Christ     | ⑫ Eastern Orthodox  |
| ④ Episcopal               | ⑬ Jewish            |
| ⑤ Lutheran                | ⑭ Latter Day Saints |
| ⑥ Methodist               | ⑮ Muslim/Moslem     |
| ⑦ Presbyterian            | ⑯ Buddhist          |
| ⑧ United Church of Christ | ⑰ Other religion    |
| ⑨ Other Protestant        | ⑱ None              |

b. How often do you attend religious services?

- ① Never
- ② Rarely
- ③ Once or twice a month
- ④ About once a week or more

12. How important is religion in your life?

- ① Not important
- ② A little important
- ③ Pretty important
- ④ Very important

The next questions are about your experiences in school.

13. Which of the following best describes your average grade in this school year?

- |              |                   |
|--------------|-------------------|
| ⑤ A (93-100) | ④ C+ (77-79)      |
| ⑥ A- (90-92) | ③ C (73-76)       |
| ⑦ B+ (87-89) | ② C- (70-72)      |
| ⑧ B (83-86)  | ① D (69 or below) |
| ⑨ B- (80-82) |                   |

14. Which of the following best describes your present (or expected) high school program?

- ① Academic or college prep
- ② General
- ③ Vocational, technical, or commercial
- ④ Other, or don't know

15. About how many hours do you spend in an average week on all of your homework including both in school and out of school?

- |             |               |                    |
|-------------|---------------|--------------------|
| ① 0 hours   | ④ 10-14 hours | ⑦ 25 or more hours |
| ② 1-4 hours | ⑤ 15-19 hours |                    |
| ③ 5-9 hours | ⑥ 20-24 hours |                    |

16. How likely is it that you will do each of the following things?  
(Mark one circle for each line.)

- |   |         |
|---|---------|
| a. Graduate from high school .....                                | ① ② ③ ④ |
| b. Go to a technical or vocational school after high school ..... | ① ② ③ ④ |
| c. Go to college .....  | ① ② ③ ④ |
| d. Graduate from college (four-year program) .....                | ① ② ③ ④ |
| e. Serve in the armed forces .....                                | ① ② ③ ④ |

Definitely Won't  
Probably Won't  
Probably Will  
Definitely Will

17. How often do you think about your future beyond high school?

- ① Never
- ② Seldom
- ③ Sometimes
- ④ Often

18. Which best describes your plans after high school?

- ① I have no idea what I will do.
- ② I have a few ideas about what I might do.
- ③ I know pretty well what I will do.
- ④ I know exactly what I will do.

19. During the LAST FOUR WEEKS, how many whole days of school have you missed...

- a. Because of illness ..... ① ② ③ ④ ⑤ ⑥ ⑦
- b. Because you skipped or "cut" ① ② ③ ④ ⑤ ⑥ ⑦
- c. For other reasons ..... ① ② ③ ④ ⑤ ⑥ ⑦

20. During the last four weeks, how often have you gone to school, but skipped a class when you weren't supposed to?

- ① Not at all
- ② 1 or 2 times
- ③ 3-5 times
- ④ 6-10 times
- ⑤ 11-20 times
- ⑥ More than 20 times

21. Have you ever had to repeat a grade in school?

- ① No
- ② Yes, one time
- ③ Yes, two or more times

22. Did you ever attend summer school to make up for poor grades or to keep from being held back?

- ① No
- ② Yes, one summer
- ③ Yes, two summers
- ④ Yes, three or more summers

23. Have you ever been suspended or expelled from school?

- ① No
- ② Yes, one time
- ③ Yes, two or more times

24. Have any of your friends dropped out of school?

- ① None
- ② A few
- ③ Some
- ④ Most or all

25. During a typical week, on how many evenings do you go out for fun and recreation? (Don't count things you do with your parents or other adult relatives.)

- ① Less than one evening per week
- ② One evening
- ③ Two evenings
- ④ Three evenings
- ⑤ Four or five evenings
- ⑥ Six or seven evenings per week

26. On the average, how often (if ever) do you go out with a date?

- ① Never
- ② Once a month or less
- ③ 2 or 3 times a month
- ④ Once a week
- ⑤ 2 or 3 times a week
- ⑥ Over 3 times a week

27. How often do your parents (or step-parents or guardians) do the following?

- a. Check on whether you have done your homework ..... ① ② ③ ④
- b. Provide help with your homework when it's needed ..... ① ② ③ ④
- c. Require you to do work or chores around the home ..... ① ② ③ ④
- d. Limit the amount of time you can spend watching TV ..... ① ② ③ ④
- e. Limit the amount of time you can go out with friends on school nights ..... ① ② ③ ④

28. If you were having problems in your life, do you think you would talk them over with your parents?

- ③ Yes, for most or all problems
- ② Yes, for at least some of my problems
- ① No

29. Other than your parents, is there at least one other adult you would feel able to talk to if you were having problems in your life?

- ③ Yes, for most or all problems
- ② Yes, for at least some of my problems
- ① No

## PART D

1. During an average week, how much do you usually drive a car, truck, motorcycle, or moped?

- |                  |                       |
|------------------|-----------------------|
| ① Not at all     | ④ 51 to 100 miles     |
| ② 1 to 10 miles  | ⑤ 100 to 200 miles    |
| ③ 11 to 50 miles | ⑥ More than 200 miles |

2. When you are riding in the front passenger seat of a car, how often do you wear a seatbelt? .....

- Never
Seldom
Sometimes
Often
Always
Does Not Apply
- ① ② ③ ④ ⑤ ⑥

3. During the LAST TWO WEEKS, how many times (if any) have you been a passenger in a car...

a. when the driver had been drinking alcoholic beverages? .....

- None
Once
Twice
3-6 Times
7-9 Times
10 or More
- ① ② ③ ④ ⑤ ⑥

b. when you think the driver had 5 or more drinks? .....

- ① ② ③ ④ ⑤ ⑥

4. Have you had any drug education courses or lectures in school?

- ① No--GO TO QUESTION 8
- ② No, and I wish I had--GO TO QUESTION 8
- ③ Yes

5. Would you say that the information about drugs that you received in school classes or programs has...

- ① Made you less interested in trying drugs
- ② Not changed your interest in trying drugs
- ③ Made you more interested in trying drugs

6. How many of the following drug education experiences have you had in school? (Mark all that apply.)

- ☐ A special course about drugs
- ☐ Films, lectures, or discussions in one of my regular courses
- ☐ Films or lectures, outside of my regular courses
- ☐ Special discussions or group sessions about drugs

7. Overall, how valuable were the experiences to you?

- ① Little or no value
- ② Some value
- ③ Considerable value
- ④ Great value

8. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some? (Mark one circle for each line.)

- |   |   |                                       |                            |                       |                         |                    |                  |
|---|---|---------------------------------------|----------------------------|-----------------------|-------------------------|--------------------|------------------|
|   |   | <i>Can't Say,<br/>Drug Unfamiliar</i> | <i>Probably Impossible</i> | <i>Very Difficult</i> | <i>Fairly Difficult</i> | <i>Fairly Easy</i> | <i>Very Easy</i> |
| a. Marijuana (pot, grass) .....   | ⑧ |                                       |                            |                       |                         |                    |                  |
| b. LSD .....  | ⑧ |                                       |                            |                       |                         |                    |                  |
| c. PCP (angel dust) .....   | ⑧ |                                       |                            |                       |                         |                    |                  |
| d. Amphetamines (uppers, pep pills, bennies, speed) .....                 | ⑧ |                                       |                            |                       |                         |                    |                  |
| e. Barbiturates (downers, reds, yellows, etc.) .....                      | ⑧ |                                       |                            |                       |                         |                    |                  |
| f. Tranquilizers (Librium, Valium, etc.) .....                            | ⑧ |                                       |                            |                       |                         |                    |                  |
| g. "Crack" cocaine .....  | ⑧ |                                       |                            |                       |                         |                    |                  |
| h. Cocaine in powder form .....   | ⑧ |                                       |                            |                       |                         |                    |                  |
| i. Heroin .....   | ⑧ |                                       |                            |                       |                         |                    |                  |
| j. Some other narcotic (methadone, opium, codeine, paregoric, etc.) ..... | ⑧ |                                       |                            |                       |                         |                    |                  |
| k. Crystal meth ("ice") .....   | ⑧ |                                       |                            |                       |                         |                    |                  |
| l. Steroids (anabolic steroids) ..  | ⑧ |                                       |                            |                       |                         |                    |                  |
| m. Cigarettes .....   | ⑧ |                                       |                            |                       |                         |                    |                  |
| n. Alcohol .....  | ⑧ |                                       |                            |                       |                         |                    |                  |

9. Have you ever taken or used smokeless tobacco (chewing tobacco, snuff, plug, dipping tobacco)?

- ① Never
- ② Once or twice
- ③ Occasionally but not regularly
- ④ Regularly in the past
- ⑤ Regularly now

10. How often have you taken smokeless tobacco during the past 30 days?

- ① Not at all
- ② Once or twice
- ③ Once to twice per week
- ④ Three to five times per week
- ⑤ About once a day
- ⑥ More than once a day

11. How many of your friends would you estimate...

- a. Smoke cigarettes? ..... ① ② ③ ④ ⑤
- b. Use smokeless tobacco? ..... ① ② ③ ④ ⑤
- c. Drink alcoholic beverages (liquor, beer, wine)? ..... ① ② ③ ④ ⑤
- d. Get drunk at least once a week? ..... ① ② ③ ④ ⑤
- e. Smoke marijuana or hashish? ..... ① ② ③ ④ ⑤
- f. Take "crack" cocaine? ..... ① ② ③ ④ ⑤
- g. Take cocaine in powder form? ..... ① ② ③ ④ ⑤
- h. Take heroin? ..... ① ② ③ ④ ⑤
- i. Sniff glue, gases, or sprays? ..... ① ② ③ ④ ⑤

None  
A Few  
Some  
Most  
All

12. How much pressure do you feel from your friends and schoolmates to...

- a. Smoke cigarettes ..... ① ② ③ ④
- b. Drink alcoholic beverages ..... ① ② ③ ④
- c. Use marijuana ..... ① ② ③ ④
- d. Use other illegal drugs ..... ① ② ③ ④

None  
A Little  
Some  
A lot

13. When (if ever) did you FIRST do each of the following things? Don't count anything you took because a doctor told you to. (Mark one circle for each line.)

- a. Smoke your first cigarette ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- b. Smoke cigarettes on a daily basis ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- c. Try an alcoholic beverage—more than just a few sips ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- d. Drink enough to feel drunk or very high .... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- e. Try marijuana or hashish ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦

Never  
Grade 4 or below  
Grade 5  
Grade 6  
Grade 7  
Grade 8  
Grade 9 (Freshman)  
Grade 10 (Sophomore)

- f. Try "crack" cocaine ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- g. Try cocaine in powder form ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- h. Sniff glue, gases or sprays to get high ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦
- i. Try steroids (anabolic steroids) ..... ⑧ ① ② ③ ④ ⑤ ⑥ ⑦

Never  
Grade 4 or below  
Grade 5  
Grade 6  
Grade 7  
Grade 8  
Grade 9 (Freshman)  
Grade 10 (Sophomore)

14. Have you ever tried to stop using marijuana or any other illegal drug and found that you couldn't stop?

- ① Yes                      ② No

15. During the last 12 months, how often (if ever) have you used marijuana or any other drugs (like cocaine, amphetamines, etc.) in each of the following places?

- a. At your home ..... ① ② ③ ④
- b. At friends' houses ..... ① ② ③ ④
- c. At a school dance, a game, or other event ..... ① ② ③ ④
- d. At school during the day ..... ① ② ③ ④
- e. Near school ..... ① ② ③ ④
- f. In a car ..... ① ② ③ ④
- g. At a party ..... ① ② ③ ④

Not at All  
1-2 Times  
3-5 Times  
6 or More Times

16. How likely is it that you will use marijuana in the next 12 months?

- ① Definitely will--GO TO THE TOP OF THE NEXT COLUMN
- ② Probably will--GO TO THE TOP OF THE NEXT COLUMN
- ③ Probably will not
- ④ Definitely will not

17. Here are some reasons people give for not using marijuana or for stopping use. How important is each of the following as a reason for YOU not using marijuana?

- a. Concerned about possible psychological damage ..... ① ② ③
- b. Concerned about possible physical damage ..... ① ② ③
- c. Concerned about getting arrested ..... ① ② ③
- d. Concerned about becoming addicted ..... ① ② ③
- e. It's against my beliefs ..... ① ② ③
- f. Concerned about loss of energy or ambition ..... ① ② ③
- g. Concerned about possible loss of control of myself ..... ① ② ③
- h. It might lead to stronger drugs ..... ① ② ③
- i. Not enjoyable, I wouldn't like it ..... ① ② ③
- j. My parents would disapprove ..... ① ② ③
- k. My boyfriend/girlfriend would disapprove ..... ① ② ③
- l. I wouldn't like being with the people who use it ..... ① ② ③
- m. My friends don't use it ..... ① ② ③
- n. Too expensive ..... ① ② ③
- o. Not available ..... ① ② ③
- p. Don't feel like getting high ..... ① ② ③

## PART E

This section asks for your views and feelings about a number of different things.

1. Do you agree or disagree with each of the following? (Mark one circle for each line.)

- a. A lot of times I feel lonely ..... ① ② ③ ④ ⑤
- b. There is always someone I can turn to if I need help ..... ① ② ③ ④ ⑤
- c. I get a real kick out of doing things that are a little dangerous ..... ① ② ③ ④ ⑤
- d. I often feel left out of things ..... ① ② ③ ④ ⑤
- e. There is usually someone I can talk to if I need to ..... ① ② ③ ④ ⑤
- f. I like to test myself every now and then by doing something a little risky ..... ① ② ③ ④ ⑤
- g. I often wish I had more good friends ..... ① ② ③ ④ ⑤
- h. I usually have a few friends around that I can get together with ..... ① ② ③ ④ ⑤

2. The next questions are about some things which may have happened TO YOU while you were at school (inside or outside or in a schoolbus).

During the LAST 12 MONTHS, how often...

- a. Has something of yours (worth under \$50) been stolen? ..... ① ② ③ ④ ⑤
- b. Has something of yours (worth over \$50) been stolen? ..... ① ② ③ ④ ⑤
- c. Has someone deliberately damaged your property (your car, clothing, etc.)? ..... ① ② ③ ④ ⑤
- d. Has someone injured you with a weapon (like a knife, gun, or club)? ..... ① ② ③ ④ ⑤
- e. Has someone threatened you with a weapon, but not actually injured you? ..... ① ② ③ ④ ⑤
- f. Has someone injured you on purpose without using a weapon? ..... ① ② ③ ④ ⑤
- g. Has an unarmed person threatened you with injury, but not actually injured you? ..... ① ② ③ ④ ⑤

3. To what extent have you participated in the following school activities during this school year?

Not At All  
Slight  
Moderate  
Considerable  
Great

- a. School newspaper or yearbook .... ① ② ③ ④ ⑤
- b. Music or other performing arts .... ① ② ③ ④ ⑤
- c. Athletic teams ..... ① ② ③ ④ ⑤
- d. Other school clubs or activities .... ① ② ③ ④ ⑤

4. Have you had sex education as part of your school coursework?

- ① No, and I'm glad I didn't
- ② No, and I wish I had
- ③ Yes, and it was very worthwhile
- ④ Yes, and it was somewhat worthwhile
- ⑤ Yes, but it was not worthwhile at all

5. Did you ever study about birth control methods in school?

- ① No, and I'm glad I didn't
- ② No, and I wish I had
- ③ Yes, and it was very worthwhile
- ④ Yes, and it was somewhat worthwhile
- ⑤ Yes, but it was not worthwhile at all

6. How much competition for grades is there among students at your school?

- ① None
- ② A little
- ③ Some
- ④ Quite a bit
- ⑤ A great deal

7. How do you think most of the students in your classes would feel if you cheated on a test?

- ① They would like it very much
- ② They would like it
- ③ They would not care
- ④ They would dislike it
- ⑤ They would dislike it very much

8. How do you think most of the students in your classes would feel if you intentionally did things to make your teachers angry?

- ① They would like it very much
- ② They would like it
- ③ They would not care
- ④ They would dislike it
- ⑤ They would dislike it very much

9. How often do you find that your friends encourage you to do things which your teachers wouldn't like?

- ① Never
- ② Seldom
- ③ Sometimes
- ④ Often
- ⑤ Almost always

10. How important is each of the following for being looked up to or having high status in your school?

No Importance  
Little Importance  
Moderate Importance  
Great Importance  
Very Great Importance

- a. Coming from the right family ..... ① ② ③ ④ ⑤
- b. Being a leader in student activities... ① ② ③ ④ ⑤
- c. Having a nice car ..... ① ② ③ ④ ⑤
- d. Getting good grades ..... ① ② ③ ④ ⑤
- e. Being a good athlete ..... ① ② ③ ④ ⑤
- f. Planning to go to college ..... ① ② ③ ④ ⑤

11. These next questions ask your opinions about another topic. How much do you agree or disagree with each statement below? (Mark one circle for each line.)

Disagree  
Mostly Disagree  
Neither  
Mostly Agree  
Agree

- a. Most mothers should spend more time with their children than they do now ..... ① ② ③ ④ ⑤
- b. Most fathers should spend more time with their children than they do now ..... ① ② ③ ④ ⑤

Thank you for taking the time to answer these questions. We hope you found them interesting. We are eager to tabulate your answers along with those of other students throughout the nation.

### WHY YOUR NAME AND ADDRESS?

As we told you earlier, we'd like to send you a summary of the nationwide results of the present study, and in the future we may want to mail a similar questionnaire to some of you. In order to include you in these follow-ups, we would like to have an address where information will be sure to reach you during the coming year.

### HOW IS CONFIDENTIALITY PROTECTED?

- The information on this page will be used **ONLY** for mailing, and will always be kept separate from your answers. A special Grant of Confidentiality from the U.S. government protects all information gathered in this research project.
- The questionnaire and address pages will be collected separately, sealed immediately in separate envelopes, and sent to two different cities for processing.
- Once a questionnaire and address page have been separated, there is no way they can be matched, except by using a special computer tape at the University of Michigan. That tape contains the two **DIFFERENT** numbers that appear on the back of this address page and on the back of the questionnaire. These numbers will be used **ONLY** to match a follow-up questionnaire with this one.

Before filling out this address page, please separate it from the rest of the questionnaire by **FOLDING ALONG THE PERFORATED LINE AND TEARING CAREFULLY.**

Please **PRINT** your name and the address where you can most likely be reached during the coming year.

-----  
FIRST NAME MIDDLE INITIAL LAST NAME  
-----  
STREET NUMBER STREET (APT #)  
-----  
CITY -----  
-----  
STATE ----- ZIP -----  
-----  
TELEPHONE NO. ( ) - -----  
AREA

In case we should have trouble getting mail to you, if you move, please **PRINT** the name and address of one other person (with a different address than your own) who will know where to reach you in the future. (Examples of such a person: aunt or uncle, older sister or brother, or close friend.)

-----  
FIRST NAME MIDDLE INITIAL LAST NAME  
-----  
STREET NUMBER STREET (APT #)  
-----  
CITY -----  
-----  
STATE ----- ZIP -----  
-----  
TELEPHONE NO. ( ) - -----  
AREA



**Appendix B**  
**Monitoring the Future (MTF)**  
**Publications Generated by Research Project**

## ANNUAL VOLUMES CONTAINING COMPLETE RESPONSE DISTRIBUTIONS

(Published by the Institute for Social Research)

These volumes contain univariate and selected bivariate percentagized frequency distributions on all questions asked in a given year. Also contained is a cross-time index for locating the same question in the other years of the study in which it was contained. Order directly from Book Sales, Dept. Q, Institute for Social Research, The University of Michigan, P. O. Box 1248, Ann Arbor, Michigan 48106-1248.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1975.* L.D. Johnston and J.G. Bachman, 1980, 188 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1976.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1980, 264 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1977.* L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1980, 266 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1978.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1980, 266 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1979.* L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1980, 266 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1980.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1981, 266 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1981.* L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1982, 268 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1982.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1984, 280 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1983.* L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1984, 282 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1984.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1985, 284 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1985.* L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1986, 284 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1986.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1987, 288 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1987.* L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1991, 283 pp.

*Monitoring the Future: Questionnaire responses from the nation's high school seniors, 1988.* J.G. Bachman, L.D. Johnston, and P.M. O'Malley, 1991, 283 pp.

## ANNUAL VOLUMES ON TRENDS IN DRUG USE AND RELATED FACTORS

(Published by the National Institute on Drug Abuse)

Volumes in this series may be ordered from the National Clearinghouse for Alcohol and Drug Information, P.O. Box 2345, Rockville, MD 20852 (Tel. 1-800-729-6686). There is no charge for single copies.

- Drug use among American high school students 1975-1977* (DHEW Publication No. ADM 78-619). L.D. Johnston, J.G. Bachman, and P.M. O'Malley, 1978, 256 pp.
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## **Appendix C**

### **National Household Survey on Drug Abuse Interviewer Visits and Assessment of Privacy**

**Interviewer's Assessment of Respondent's Level Of Privacy During  
Interview By Age and Ethnicity of Respondent**

Race/Ethnicity and Interviewer Assessment	Age Group (Years)				Total
	12-17	18-25	26-34	35+	
<b>Hispanic</b>					
Total Number	526	448	462	479	1,915
Level of Privacy (Percent of Total)					
01 - Completely private	40.7	51.8	42.4	53.9	47.0
02 -	2.5	2.2	4.3	1.7	2.7
03 - Minor distractions	24.0	21.2	27.9	19.4	23.1
04 -	1.1	1.3	1.1	0.6	1.0
05 - Person(s) in room 1/3 of time	12.4	7.8	7.8	7.1	8.9
06 -	0.4	0.4	0.0	0.8	0.4
07 - Serious interruptions > 1/2 Time	1.0	0.7	0.4	0.8	0.7
08 -	0.0	0.7	0.0	0.4	0.3
09 - Constant presence of other people	17.1	13.2	15.4	14.2	15.0
10 - Not sure	1.0	0.7	0.6	1.0	0.8
<b>Non-Hispanic Black</b>					
Total Number	448	414	460	520	1,842
Level of Privacy (Percent of Total)					
01 - Completely private	43.1	51.0	57.6	68.5	55.6
02 -	5.6	4.1	2.8	2.3	3.6
03 - Minor distractions	21.9	22.0	23.3	15.8	20.5
04 -	1.3	0.7	1.1	0.4	0.9
05 - Person(s) in room 1/3 of time	13.2	8.5	4.3	5.0	7.6
06 -	0.2	0.2	0.4	0.4	0.3
07 - Serious interruptions > 1/2 Time	1.8	2.2	1.5	0.6	1.5
08 -	0.2	0.2	0.2	0.0	0.2
09 - Constant presence of other people	11.2	9.7	7.8	6.2	8.6
10 - Not sure	1.6	1.4	0.9	1.0	1.2
<b>Non-Hispanic Non-Black</b>					
Total Number	1,203	1,190	1,433	1,676	5,502
Level of Privacy (Percent of Total)					
01 - Completely private	51.5	60.2	55.1	68.4	59.5
02 -	4.1	3.5	4.2	2.4	3.5
03 - Minor distractions	15.1	18.1	21.5	11.0	16.2
04 -	1.2	0.7	1.6	0.6	1.0
05 - Person(s) in room 1/3 of time	10.7	6.6	6.8	6.7	7.6
06 -	1.0	0.6	0.3	0.6	0.6
07 - Serious interruptions > 1/2 Time	1.1	1.1	1.7	0.5	1.1
08 -	0.1	0.0	0.0	0.1	0.1
09 - Constant presence of other people	14.0	8.7	7.8	9.1	9.7
10 - Not sure	1.1	0.7	1.0	0.5	0.8

Source: NIDA National Household Survey on Drug Abuse, 1990.

### Number of Visits Required to Complete Screening

	Visits	Screenings	Percent	Cum. Percent
<u>National:</u>	1	11,352	45.4	45.4
	2	5,359	21.4	66.8
	3	3,043	12.2	79.0
	4	1,716	6.9	85.9
	5	1,133	4.5	90.4
	6	683	2.7	93.1
	7	436	1.7	94.9
	8	265	1.1	96.0
	9	185	0.7	96.7
	10	132	0.5	97.2
	11	71	0.3	97.5
	12+	227	0.9	98.4
	<u>Missing</u>	<u>397</u>	1.6	100.0
	Total	24,999		
<u>DC MSA:</u>	1	2,375	39.0	39.0
	2	1,312	21.5	60.5
	3	794	13.0	73.5
	4	481	7.9	81.4
	5	315	5.2	86.6
	6	204	3.3	89.9
	7	145	2.4	92.3
	8	76	1.2	93.6
	9	72	1.2	94.7
	10	43	0.7	95.5
	11	41	0.7	96.1
	12+	114	1.9	98.0
	<u>Missing</u>	<u>122</u>	2.0	100.0
	Total	6,094		
<u>Total U.S.:</u>	1	13,727	44.1	44.1
	2	6,671	21.5	65.6
	3	3,837	12.3	77.9
	4	2,197	7.1	85.0
	5	1,448	4.7	89.7
	6	887	2.9	92.5
	7	581	1.9	94.4
	8	341	1.1	95.5
	9	257	0.8	96.3
	10	175	0.6	96.9
	11	112	0.4	97.2
	12+	341	1.1	98.3
	<u>Missing</u>	<u>519</u>	1.7	100.0
	Total	31,093		

Source: NIDA, National Household Survey on Drug Abuse, 1990.

### Number of Visits Required to Complete Interview

	Visits*	Interviews	Percent	Cum. Percent
<u>National:</u>	1	3,636	49.6	49.6
	2	1,517	20.7	70.3
	3	630	8.6	78.9
	4	378	5.2	84.1
	5	297	4.1	88.1
	6	151	2.1	90.2
	7	109	1.5	91.7
	8	86	1.2	92.8
	9	60	0.8	93.7
	10	39	0.5	94.2
	11	22	0.3	94.5
	12+	72	1.0	95.5
	<u>Missing</u>	<u>331</u>	4.5	100.0
	Total	7,328		
 <u>DC MSA:</u>	1	862	44.6	44.6
	2	398	20.6	65.3
	3	180	9.3	74.6
	4	112	5.8	80.4
	5	62	3.2	83.6
	6	45	2.3	85.9
	7	41	2.1	88.0
	8	23	1.2	89.2
	9	20	1.0	90.3
	10	12	0.6	90.9
	11	9	0.5	91.4
	12+	23	1.2	92.5
	<u>Missing</u>	<u>144</u>	7.5	100.0
	Total	1,931		
 <u>Total U.S.:</u>	1	4,498	48.6	48.6
	2	1,915	20.7	69.3
	3	810	8.7	78.0
	4	490	5.3	83.3
	5	359	3.9	87.2
	6	196	2.1	89.3
	7	150	1.6	90.9
	8	109	1.2	92.1
	9	80	0.9	93.0
	10	51	0.6	93.5
	11	31	0.3	93.8
	12+	95	1.0	94.9
	<u>Missing</u>	<u>475</u>	5.1	100.0
	Total	9,259		

\*Numbers of visits to complete an interview in excess of one represent the visit to complete screening and any additional visits required to complete interviewing. Any visits to selected household before the visit when screening was completed are not included.

Source: NIDA, National Household Survey on Drug Abuse, 1990.

**Appendix D**  
**Youth Risk Behavior Survey Questionnaire**

# 1993 Youth Risk Behavior Survey



**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**Public Health Service  
Centers for Disease Control  
Atlanta, Georgia 30333**





## 1993 YOUTH RISK BEHAVIOR SURVEY

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This survey is about health behavior. It has been developed so you can tell us what *you* do that may affect your health. The information you give will be used to develop better health education programs for young people like yourself.

DO NOT write your name on this survey *or* the answer sheet. The answers you give will be kept *private*. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class.

The questions that ask about your background will only be used to describe the types of students completing this survey. The information will not be used to find out your name. *No names will ever be reported.*

Place all your answers on the answer sheet. Fill in the circles completely. Make sure to answer every question. When you are finished, follow the instructions of the person giving you the survey.

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**THANK YOU VERY MUCH FOR YOUR HELP**

INSTRUCTIONS: Read each question carefully. Fill in the circle on your answer sheet that matches the letter of your answer. CHOOSE THE ONE BEST ANSWER FOR EACH QUESTION.

1. How old are you?
  - a. 12 years old or younger
  - b. 13 years old
  - c. 14 years old
  - d. 15 years old
  - e. 16 years old
  - f. 17 years old
  - g. 18 years old or older
2. What is your sex?
  - a. Female
  - b. Male
3. In what grade are you?
  - a. 9th grade
  - b. 10th grade
  - c. 11th grade
  - d. 12th grade
  - e. Ungraded or other
4. How do you describe yourself?
  - a. White - not Hispanic
  - b. Black - not Hispanic
  - c. Hispanic
  - d. Asian or Pacific Islander
  - e. Native American or Alaskan Native
  - f. Other
5. Compared to other students in your class, what kind of student would you say you are?
  - a. One of the best
  - b. Far above the middle
  - c. A little above the middle
  - d. In the middle
  - e. A little below the middle
  - f. Far below the middle
  - g. Near the bottom
6. How often do you wear a seat belt when riding in a car driven by someone else?
  - a. Never
  - b. Rarely
  - c. Sometimes
  - d. Most of the time
  - e. Always
7. During the past 12 months, how many times did you ride a motorcycle?
  - a. 0 times
  - b. 1 to 10 times
  - c. 11 to 20 times
  - d. 21 to 39 times
  - e. 40 or more times
8. When you rode a motorcycle during the past 12 months, how often did you wear a helmet?
  - a. I did not ride a motorcycle during the past 12 months
  - b. Never wore a helmet
  - c. Rarely wore a helmet
  - d. Sometimes wore a helmet
  - e. Most of the time wore a helmet
  - f. Always wore a helmet
9. During the past 12 months, how many times did you ride a bicycle?
  - a. 0 times
  - b. 1 to 10 times
  - c. 11 to 20 times
  - d. 21 to 39 times
  - e. 40 or more times

10. When you rode a bicycle during the past 12 months, how often did you wear a helmet?

- a. I did not ride a bicycle during the past 12 months
- b. Never wore a helmet
- c. Rarely wore a helmet
- d. Sometimes wore a helmet
- e. Most of the time wore a helmet
- f. Always wore a helmet

11. During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or more times

12. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or more times

13. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?

- a. 0 days
- b. 1 day
- c. 2 or 3 days
- d. 4 or 5 days
- e. 6 or more days

14. During the past 30 days, on how many days did you carry a gun?

- a. 0 days
- b. 1 day
- c. 2 or 3 days
- d. 4 or 5 days
- e. 6 or more days

15. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?

- a. 0 days
- b. 1 day
- c. 2 or 3 days
- d. 4 or 5 days
- e. 6 or more days

16. During the past 30 days, how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?

- a. 0 days
- b. 1 day
- c. 2 or 3 days
- d. 4 or 5 days
- e. 6 or more days

17. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or 7 times
- f. 8 or 9 times
- g. 10 or 11 times
- h. 12 or more times

18. During the past 12 months, how many times has someone stolen or deliberately damaged your property such as your car, clothing, or books on school property?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or 7 times
- f. 8 or 9 times
- g. 10 or 11 times
- h. 12 or more times

19. During the past 12 months, how many times were you in a physical fight?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or 7 times
- f. 8 or 9 times
- g. 10 or 11 times
- h. 12 or more times

20. The last time you were in a physical fight, with whom did you fight?

- a. I have never been in a physical fight
- b. A total stranger
- c. A friend or someone I know
- d. A boyfriend, girlfriend, or date
- e. A parent, brother, sister, or other family member
- f. Someone not listed above
- g. More than one of the persons listed above

21. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or more times

22. During the past 12 months, how many times were you in a physical fight on school property?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or 7 times
- f. 8 or 9 times
- g. 10 or 11 times
- h. 12 or more times

23. During the past 12 months, when you went swimming in places such as a pool, lake, or ocean, how often was an adult or a lifeguard watching you?

- a. I did not go swimming during the past 12 months
- b. Never
- c. Rarely
- d. Sometimes
- e. Most of the time
- f. Always

Sometimes people feel so depressed and hopeless about the future that they may consider attempting suicide, that is, taking some action to end their own life.

24. During the past 12 months, did you ever seriously consider attempting suicide?

- a. Yes
- b. No

25. During the past 12 months, did you make a plan about how you would attempt suicide?

- a. Yes
- b. No

26. During the past 12 months, how many times did you actually attempt suicide?

- a. 0 times
- b. 1 time
- c. 2 or 3 times
- d. 4 or 5 times
- e. 6 or more times

27. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

- a. I did not attempt suicide during the past 12 months
- b. Yes
- c. No

The next ten questions ask about tobacco use.

28. Have you ever tried cigarette smoking, even one or two puffs?

- a. Yes
- b. No

29. How old were you when you smoked a whole cigarette for the first time?

- a. I have never smoked a whole cigarette
- b. Less than 9 years old
- c. 9 or 10 years old
- d. 11 or 12 years old
- e. 13 or 14 years old
- f. 15 or 16 years old
- g. 17 or more years old

30. Have you ever smoked cigarettes regularly, that is, at least one cigarette every day for 30 days?

- a. Yes
- b. No

31. How old were you when you first started smoking cigarettes regularly (at least one cigarette every day for 30 days)?

- a. I have never smoked cigarettes regularly
- b. Less than 9 years old
- c. 9 or 10 years old
- d. 11 or 12 years old
- e. 13 or 14 years old
- f. 15 or 16 years old
- g. 17 or more years old

32. During the past 30 days, on how many days did you smoke cigarettes?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 5 days
- d. 6 to 9 days
- e. 10 to 19 days
- f. 20 to 29 days
- g. All 30 days

33. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

- a. I did not smoke cigarettes during the past 30 days
- b. Less than 1 cigarette per day
- c. 1 cigarette per day
- d. 2 to 5 cigarettes per day
- e. 6 to 10 cigarettes per day
- f. 11 to 20 cigarettes per day
- g. More than 20 cigarettes per day

34. During the past 30 days, on how many days did you smoke cigarettes on school property?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 5 days
- d. 6 to 9 days
- e. 10 to 19 days
- f. 20 to 29 days
- g. All 30 days

35. During the past 6 months, did you try to quit smoking cigarettes?

- a. I did not smoke cigarettes during the past 6 months
- b. Yes
- c. No

36. During the past 30 days, did you use chewing tobacco, such as Redman, Levi Garrett, or Beechnut, or snuff, such as Skoal, Skoal Bandits, or Copenhagen?

- a. No, I did not use chewing tobacco or snuff during the past 30 days
- b. Yes, chewing tobacco only
- c. Yes, snuff only
- d. Yes, both chewing tobacco and snuff

37. During the past 30 days, did you use chewing tobacco, such as Redman, Levi Garrett, or Beechnut, or snuff, such as Skoal, Skoal Bandits, or Copenhagen on school property?

- a. No, I did not use chewing tobacco or snuff on school property
- b. Yes, chewing tobacco only
- c. Yes, snuff only
- d. Yes, both chewing tobacco and snuff

The next five questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

38. How old were you when you had your first drink of alcohol other than a few sips?

- a. I have never had a drink of alcohol other than a few sips
- b. Less than 9 years old
- c. 9 or 10 years old
- d. 11 or 12 years old
- e. 13 or 14 years old
- f. 15 or 16 years old
- g. 17 or more years old

39. During your life, on how many days have you had at least one drink of alcohol?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 9 days
- d. 10 to 19 days
- e. 20 to 39 days
- f. 40 to 99 days
- g. 100 or more days

40. During the past 30 days, on how many days did you have at least one drink of alcohol?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 5 days
- d. 6 to 9 days
- e. 10 to 19 days
- f. 20 to 29 days
- g. All 30 days

41. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 to 5 days
- e. 6 to 9 days
- f. 10 to 19 days
- g. 20 or more days

42. During the past 30 days, on how many days did you have at least one drink of alcohol on school property?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 5 days
- d. 6 to 9 days
- e. 10 to 19 days
- f. 20 to 29 days
- g. All 30 days

The next four questions ask about the use of marijuana, which is also called grass or pot.

43. How old were you when you tried marijuana for the first time?

- a. I have never tried marijuana
- b. Less than 9 years old
- c. 9 or 10 years old
- d. 11 or 12 years old
- e. 13 or 14 years old
- f. 15 or 16 years old
- g. 17 or more years old

44. During your life, how many times have you used marijuana?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 to 99 times
- g. 100 or more times

45. During the past 30 days, how many times did you use marijuana?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

46. During the past 30 days, how many times did you use marijuana on school property?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

The next eight questions ask about cocaine and other drugs.

47. How old were you when you tried any form of cocaine, including powder, crack, or freebase, for the first time?

- a. I have never tried cocaine
- b. Less than 9 years old
- c. 9 or 10 years old
- d. 11 or 12 years old
- e. 13 or 14 years old
- f. 15 or 16 years old
- g. 17 or more years old

48. During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

49. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

50. During your life, how many times have you used the crack or freebase forms of cocaine?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

51. During your life, how many times have you used any other type of illegal drug, such as LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills without a doctor's prescription?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

52. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 or more times

53. During your life, have you ever injected (shot up) any illegal drug?

- a. Yes
- b. No

54. During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?

- a. Yes
- b. No

The next two questions ask about AIDS/HIV education and information.

55. Have you ever been taught about AIDS/HIV infection in school?

- a. Yes
- b. No
- c. Not sure

56. Have you ever talked about AIDS/HIV infection with your parents or other adults in your family?

- a. Yes
- b. No
- c. Not sure

The next nine questions ask about sexual behavior.

57. Have you ever had sexual intercourse?

- a. Yes
- b. No

58. How old were you when you had sexual intercourse for the first time?

- a. I have never had sexual intercourse
- b. Less than 12 years old
- c. 12 years old
- d. 13 years old
- e. 14 years old
- f. 15 years old
- g. 16 years old
- h. 17 or more years old

59. During your life, with how many people have you had sexual intercourse?

- a. I have never had sexual intercourse
- b. 1 person
- c. 2 people
- d. 3 people
- e. 4 people
- f. 5 people
- g. 6 or more people

60. During the **past 3 months**, with how many people did you have sexual intercourse?

- a. I have never had sexual intercourse
- b. I have had sexual intercourse, but not during the past 3 months
- c. 1 person
- d. 2 people
- e. 3 people
- f. 4 people
- g. 5 people
- h. 6 or more people

61. Did you drink alcohol or use drugs before you had sexual intercourse the last time?

- a. I have never had sexual intercourse
- b. Yes
- c. No

62. The last time you had sexual intercourse, did you or your partner use a condom?

- a. I have never had sexual intercourse
- b. Yes
- c. No

63. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy? (Select only one response.)

- a. I have never had sexual intercourse
- b. No method was used to prevent pregnancy
- c. Birth control pills
- d. Condoms
- e. Withdrawal
- f. Some other method
- g. Not sure

64. How many times have you been pregnant or gotten someone pregnant?

- a. 0 times
- b. 1 time
- c. 2 or more times
- d. Not sure



65. Have you ever been told by a doctor or nurse that you have a sexually transmitted disease such as genital herpes, genital warts, chlamydia, syphilis, gonorrhea, AIDS, or HIV infection?

- a. Yes
- b. No

The next four questions ask about body weight.

66. How do you think of yourself?

- a. Very underweight
- b. Slightly underweight
- c. About the right weight
- d. Slightly overweight
- e. Very overweight

67. Which of the following are you trying to do?

- a. Lose weight
- b. Gain weight
- c. Stay the same weight
- d. I am not trying to do anything about my weight

68. During the past 7 days, which one of the following did you do to lose weight or to keep from gaining weight?

- a. I did not try to lose weight or keep from gaining weight
- b. I dieted
- c. I exercised
- d. I exercised and dieted
- e. I used some other method, but I did not exercise or diet

69. During the past 7 days, which one of the following did you do to lose weight or to keep from gaining weight?

- a. I did not try to lose weight or keep from gaining weight
- b. I made myself vomit
- c. I took diet pills
- d. I made myself vomit and took diet pills
- e. I used some other method, but I did not vomit or take diet pills

The next seven questions ask about food you ate yesterday. Think about all meals and snacks you ate yesterday from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

70. Yesterday, did you eat fruit?

- a. No
- b. Yes, once only
- c. Yes, twice or more

71. Yesterday, did you drink fruit juice?

- a. No
- b. Yes, once only
- c. Yes, twice or more

72. Yesterday, did you eat green salad?

- a. No
- b. Yes, once only
- c. Yes, twice or more

73. Yesterday, did you eat cooked vegetables?

- a. No
- b. Yes, once only
- c. Yes, twice or more

74. Yesterday, did you eat hamburger, hot dogs, or sausage?

- a. No
- b. Yes, once only
- c. Yes, twice or more

75. Yesterday, did you eat french fries or potato chips?

- a. No
- b. Yes, once only
- c. Yes, twice or more

76. Yesterday, did you eat cookies, doughnuts, pie, or cake?

- a. No
- b. Yes, once only
- c. Yes, twice or more

The next eight questions ask about physical activity.

77. On how many of the past 7 days did you exercise or participate in sports activities for at least 20 minutes that made you sweat and breathe hard, such as basketball, jogging, fast dancing, swimming laps, tennis, fast bicycling, or similar aerobic activities?

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 days
- e. 4 days
- f. 5 days
- g. 6 days
- h. 7 days

78. On how many of the past 7 days did you do stretching exercises, such as toe touching, knee bending, or leg stretching?

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 days
- e. 4 days
- f. 5 days
- g. 6 days
- h. 7 days

79. On how many of the past 7 days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight lifting?

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 days
- e. 4 days
- f. 5 days
- g. 6 days
- h. 7 days

80. On how many of the past 7 days did you walk or bicycle for at least 30 minutes at a time? (Include walking or bicycling to or from school.)

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 days
- e. 4 days
- f. 5 days
- g. 6 days
- h. 7 days

81. In an average week when you are in school, on how many days do you go to physical education (PE) classes?

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 days
- e. 4 days
- f. 5 days

82. During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?

- a. I do not take PE
- b. Less than 10 minutes
- c. 10 to 20 minutes
- d. 21 to 30 minutes
- e. More than 30 minutes

83. During the past 12 months, on how many sports teams run by your school, did you play? (Do not include PE classes.)

- a. 0 teams
- b. 1 team
- c. 2 teams
- d. 3 or more teams

84. During the past 12 months, on how many sports teams run by organizations outside of your school, did you play?

- a. 0 teams
- b. 1 team
- c. 2 teams
- d. 3 or more teams

**Appendix E**

**Monitoring the Future (MTF)**

**Rationale for Validity of Self-Reported Drug Use**

## Validity of the Measures of Self-Reported Drug Use

The question always arises whether sensitive behaviors like drug use are honestly reported. Like most studies dealing with sensitive behaviors, we have no direct, totally objective validation of the present measures; however, the considerable amount of inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.<sup>a</sup>

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.<sup>b</sup> In essence, this means that respondents were highly consistent in their self-reported behaviors over a 3- to 4- year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting illicit drug use by senior year has reached two thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of underreporting must be very limited. Fourth, the seniors' reports of use by their friends—about which they would presumably have less reason to distort—has been highly consistent with self-reported use in the aggregate in terms of both prevalence and trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations—in other words, there is strong evidence of “construct validity.” Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of the instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggest that a high level of validity has been obtained. Nevertheless, insofar as there exists any remaining reporting bias, we believe it to be in the direction of underreporting. Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

**Consistency and the measurement of trends.** One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases

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<sup>a</sup>Johnston, L. D., & O'Malley, P. M. (1985). Issues of validity and population coverage in student surveys of drug use. In B. A. Rouse, N. J. Kozel, & L. G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 [ADM] 85-1402). Washington, DC: U.S. Government Printing Office; Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high schools students: 1975-1963* (DHHS [ADM]85-1374). Washington, DC: Government Printing Office.

<sup>b</sup>O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of Addictions*, 18, 805-824

remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from 1 year to another, which means that our measurement of **trends** should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

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